CrossTalk

July 2024 *65 Years Of Service To Amateur Radio & Our Community* *Issue 65 : 07*

A 2024 Club Officers

President :	**Jonathan Pearce, WB2MNF**
Vice President :	**Ronald Block, NR2B**
Treasurer :	**John O'Connell, K2QA**
Recording Secretary :	**John Zaruba Jr, K2ZA**
Corresponding Secretary :	**Michael Resnick, N2WOQ**

Trustees - 4 Year Term

Carl Wittig, N2CRW	**(2021-2024)**
Charles Lanard, KD2EIB	**(2022-2025)**
Sheldon Parker, K2MEN	**(2023-2026)**
Len Rust, W2LJR	**(2024-2027)**

Directors - 3 Year Term

Jeffrey Garth, WB2ZBN	**(2022-2024)**	**James Wright, N2GXJ**	**(2023-2025)**
Frank Romeo, N3PUU	**(2022-2024)**	**Al Arrison, KB2AYU**	**(2024-2026)**
Chris Prioli, AD2CS	**(2023-2025)**	**Bill Price, NJ2S**	**(2024-2026)**

General Membership Meeting
Wednesday, July 3, 2024 @ 1900 Hours
In-Person & ZOOM : 943 0211 9674, 843147

Tech Saturday Forum
Saturday, July 6, 2024 @ 0900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Forum
Available Every Monday @ 1930 Hours
ZOOM Meeting ID : 933 9943 3123, 800835

License Testing Session
Thursday, July 11, 2024 @ 1900 Hours
W2MMD Clubhouse

You've Got Your License, Now What!
Monday, July 15, 2024 @ 1800 Hours
W2MMD Clubhouse

Board of Directors Meeting
Wednesday, July 17, 2024 @ 1900 Hours
W2MMD Clubhouse

Tuesday AfterNoon 2M Net @ 1200 Hours
Thursday 2M Net @ 2000 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours
28.465 MHz or 28.475 MHz

Thursday Night 40M Net @ 1930 Hours
7.230 MHz (+/- 5 kHz)

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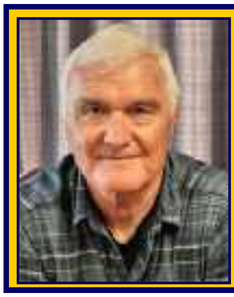


President's Letter
Jon Pearce, WB2MNF

July 2024

I'm writing this in early June, not because of my extraordinary diligence and preparedness but because I'll be away for the last two weeks of June and unfortunately will miss many of the months activities including Field Day. In my defense, I'll be attending an annual underwater photography workshop over whose schedule I have no control, and while I've been able to make it home for Field Day for the past two years that's not possible this year. If anyone is interested in some of the pictures that will hopefully result from this trip I'll post a link to them next month.

May Activities

So far, though, June has been exceptional for ham related activities at the Club. At the June General Membership Meeting, **Spencer Webb N2SW**, followed up on May's presentation with additional details on antenna design and management, ending with a description of how Smith charts are used in antenna analysis. This appeared to be a popular topic, so much so that we're planning a Tech Saturday session in August at which attendees can get hands on experience in using Nano VNA devices to visualize Smith charts on various antennas and make adjustments to improve their performance.

On the June 8th Tech Saturday **Chris Prioli AD2CS** once again put in a herculean effort to guide 10 participants through the construction of a collinear antenna for two meters and 70 centimeters. These antennas should significantly facilitate communication on these bands by the participants. Another session was scheduled for June 15th.

Balloon Project

The ham radio balloon project that we're working on in conjunction with the Woodruff Middle School is also moving forward, thanks in part to several significant donations to this effort. At this point it appears that a major supplier will be donating a large tank of helium gas along with associated apparatus that will be sufficient for all of the balloon launches envisioned by both the school and the Club. We also took delivery of a large quantity of military spec thin wire with Teflon coating that can be used for the antennas on the balloon, giving them excellent electrical conductivity as well as significant and physical strength. Additional testing on these balloons will continue throughout the month and we're hoping for a launch on the first or second Saturday in July. The balloon project offers many opportunities for experimentation with different balloon types, modulation schemes, tracker hardware, and tracking software so experimenters are encouraged to follow along with this project and get involved in areas of interest. The Club plans to launch many of its own balloons in addition to those launched by the school, so there's plenty of opportunity to play around with different ideas.

Rowan Rocket

The **Rowan University** rocket team came back to the Clubhouse on June 8th for some final radio assistance with their telemetry transmitter on 70 cm (this is the reason that a licensed ham needs to be part of that team). Their telemetry receiver was suggesting that the transmitter wasn't functioning correctly but we checked out the dipole antenna that **Chris Prioli AD2CS** built for them and it was working as expected. We tested the range of the transmitter, which was able to reach across the 4H field from inside the Clubhouse and concluded that it was also working right, so we gave them the "all clear" to use that radio on the rocket.

President's Letter - Continued on page 3

President's Letter - Continued from page 2

They had also asked if we could come up with some way to send live video from the rocket so we located and purchased a set of 5 GHz video transmitters for a drone along with a receiver. Both of those units worked as expected so hopefully they can be installed in the rocket and will show live video of its flight. The rocket contest was the week of June 16th so hopefully by the time you read this they'll have had a successful launch. The rocket is adorned with a large GCARC logo sticker (albeit one that's out of date) so we're getting some recognition for our efforts.

VHF Station

Work is also continuing on the base of one of the VHF towers that needed some adjustments before the major installation project can begin. With luck we'll be able to begin excavation for those towers sometime in July. **John O'Connell K2QA** operated the new VHF station for a while during the VHF contest but found little activity using the current temporary antennas. With the planned antenna configuration for the VHF and UHF towers we should have a state-of-the-art VHF complex that should be a contender in any VHF contest.

Licensing

Licensing classes are continuing on schedule with license testing scheduled to occur on Monday night June 24th and Tuesday night June 25th. If all goes well, 18 new Technician Class hams will emerge from that process.

Following that session, scheduled for Monday, July 15th, will be **"You've Got Your License, Now What?"** session for newly licensed hams to explore the many aspects of Amateur Radio to which they may not have been exposed during the classes.

Field Day

And Field Day, of course, is the major group activity of the year with opportunities to operate, set up stations and help out in many different ways. It's a great introduction to HF operation and contesting to new hams who may not have experience in those areas.

Be sure that you're doing SOMETHING for Field Day - it will certainly be rewarding!

Pizza Night!

Remember - the July 3rd General Membership Meeting will be Pizza Night, and you have to be present to get pizza (there's no Door Dash for Zoom participants). So come on out for that meeting, see some pictures of Field Day and enjoy delicious and nutritious food!

73 de Jon WB2MNF

Welcome New Club Members :

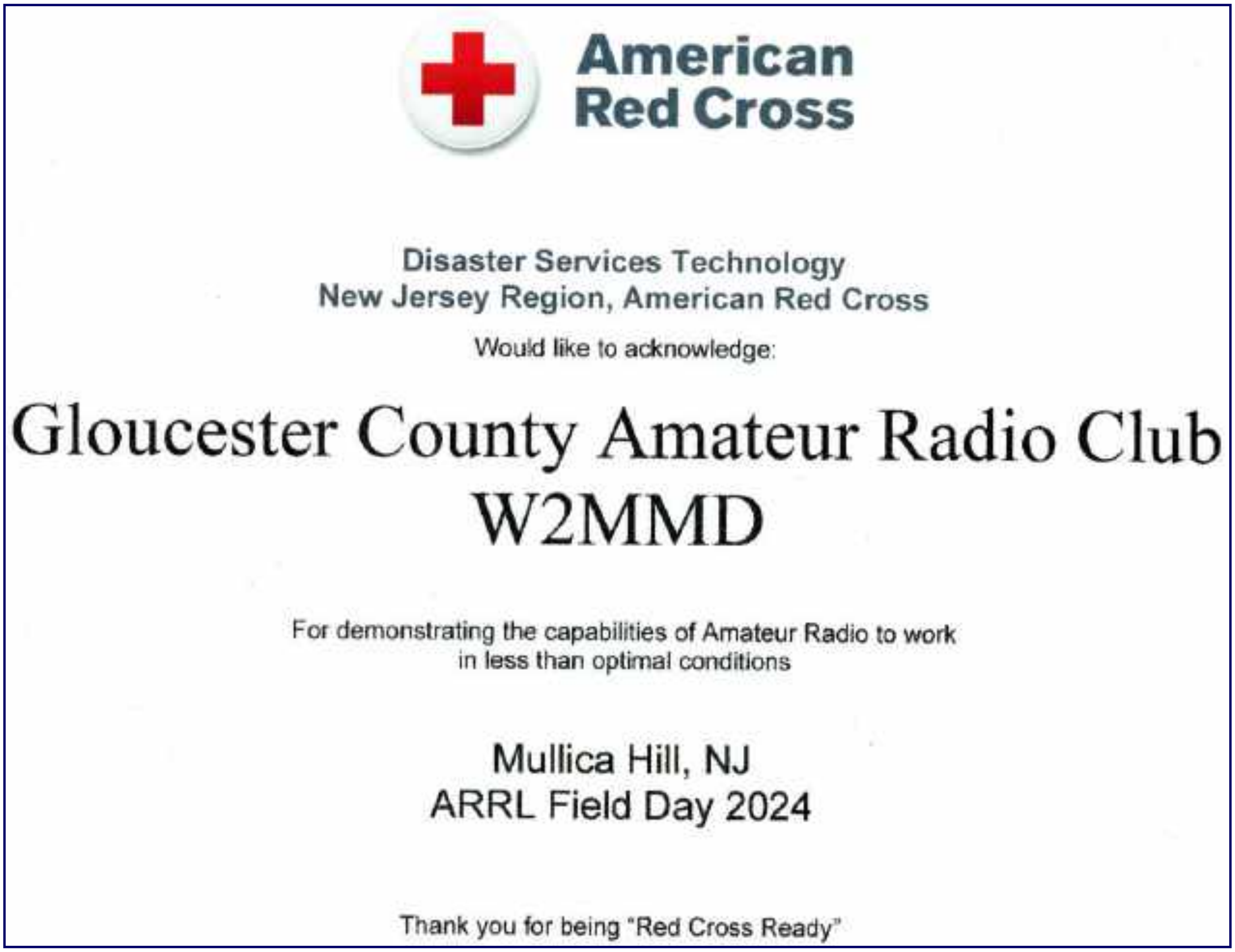
Daniel Caguiat, KE2DPR, a General Class who lives in Sicklerville, NJ.
Chris Ciraula, KD2SBR, (Returning Member), a Technician Class who lives in Elmer, NJ.
Harry Eshleman Jr, KE2DQA, a Technician Class who lives in Monroeville, NJ.
Jacques Latoison, KC3VYU, (Returning Member), a General Class who lives in Chester, PA.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the July 3rd General Membership Meeting & Pizza Party, either in-person or on ZOOM, the July 6th Tech Saturday Forum, the Monday Night GCARC TechNet ZOOM Forum, the Dinner @ The W2MMD Clubhouse on July 24th.

We also hope to ***"SEE"*** you on the ***"AIR"*** on the following nets :

- Sunday Night Skywarn 2 Meter Net @ 1930 Hours.
- Sunday Night ARES 2 Meter Net @ 2000 Hours.
- Tuesday AfterNoon 2 Meter Net @ 1200 Hours.
- Tuesday & Thursday Night 10 Meter Rag Chew Nets @ 1930 Hours on 28.465 or 28.475 MHz.
- Thursday Night 40 Meter Net on 7.230 MHz (+/- 5 kHz) @ 1930 Hours.
- Thursday Night Rag Chew 2 Meter Net @ 2000 Hours.

All 2 Meter nets are on our 147.180 MHz (PL 131.8) repeater or on EchoLink W2MMD-R.



American
Red Cross

Disaster Services Technology
New Jersey Region, American Red Cross

Would like to acknowledge:

Gloucester County Amateur Radio Club
W2MMD

For demonstrating the capabilities of Amateur Radio to work
in less than optimal conditions

Mullica Hill, NJ
ARRL Field Day 2024

Thank you for being "Red Cross Ready"

General Membership Meeting

Wednesday, July 3, 2024 @ 1900 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM : Meeting ID : 943 0211 9674; Passcode : 843147
Join ZOOM Meeting Link : https://bit.ly/44P4HCU

Go to : www.w2mmd.org to download the ZOOM log-on instructions PDF

How Did We Do At Field Day 2024?

By Jim Wright, N2GXJ

A huge thank you to everyone who helped out and participated in this year's Field Day! So how did we do?

The punch line might be, we survived!

As you probably already know, it was heat-wave hot out this year. And not just for us. It was like this in many locations across the country this year. Yet, as a testament to the can-do attitude and tenacity of your fellow Club members, somehow, collectively we pulled off a 9A sized multi-day outdoor field day effort with bonus activities, with plenty of great food and camaraderie shared by all who came out!

Thank you to everyone, it was quite the group effort! But more about that at the July 3rd Club meeting and in next month's Crosstalk. So how did we score this year?

Well, as the guy who volunteered to collect up the station logs and the required evidence of the bonus point activities we wish to claim from our on-site W2MMD field day activities and get them electronically submitted to the ARRL for their review, I'm still working on that. Though the official scores and rankings won't come out from the ARRL until published in the December edition of QST, I hope to have a preview of our claimed scoring ready in time for the July Club meeting.

So come on out to the July 3rd meeting for some free pizza, crazy field day stories, and (hopefully) an early glimpse of our claimed score. Hope to see you there!

Lee Marino, N2LAM manning the Public Information Table - 100 Point Bonus

Earl Moore, KC2NCH taking the night shift on 20M Digital

Mike Resnick, N2WOQ with Bob Keogh, KD2NEC, representing the American Red Cross - 100 Point Bonus

Advanced SMT Soldering Class

Monday, July 8, 2024 - W2MMD Clubhouse

For More Information & To Register, Go To :

https://gloucestercountyarc.weebly.com/advanced-smt-class.html

GCARC TechNet ZOOM Forum

GCARC TechNet ZOOM Forum is scheduled to be available every Monday Night until December 30, 2024.

There will not necessarily be a topic scheduled every Monday Night, but the opportunity is available to schedule succeeding topics of interest on consecutive Monday Nights.

Every Monday @ 1930 Hours

Forum Topic : See e-mail and website for more information

Go to : https://gloucestercountyarc.weebly.com/gcarc-technet.html
for TechNet Information Resources and ZOOM Instructions

Meeting ID : 933 9943 3123 ; Passcode : 800835
Join ZOOM Meeting Link : https://bit.ly/3K8bWwj

Gloucester County Amateur Radio Club
YouTube Channel
https://www.youtube.com/@W2MMD

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club's e-mail reflector asking if a member can pick you up

GCARC <*at*> MAILMAN <*dot*> QTH <*dot*> NET

All Club members have access to this FREE e-mail service

Tech Saturday Forum

July 6, 2024 @ 0900 Hours

W2MMD Clubhouse

Q & A Session About All Things Ham Radio and Socializing!

The HF Station Will Be Available For Local Operation!

Tech Saturday sessions are held at the W2MMD Clubhouse on the first Saturday of the month following the Wednesday Night General Membership Meeting and are designed to be hands-on collaborative events focused on using the Clubhouse resources to demonstrate various aspects of Amateur Radio and related technical areas. Previous sessions have covered USB software-defined radios, Raspberry Pi and Arduino devices, satellite operations and other similar topics.

We would like to invite all of our new members as well as our veteran members to our Tech Saturday Forums to help answer any questions and discuss any and all issues the new members have come across as they progress through the ***Amateur Radio Experience.***

The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturdays are an open QSO of all subjects of Amateur Radio interest. All questions are welcome as well as a venue for hams to show off their latest ham radio projects or gadgets. Have a problem programming that HT, we can help! Not sure what radio or antenna to buy, we can help!

All Club Members who would like Clubhouse access to use its radio equipment would have to have some brief “Elmering” on the Clubhouse rules, such as using the alarm system, the A/C and heaters, the antenna system, and the radio equipment. The Club’s HF station is reserved for local use on Tech Saturday.

All are welcome - Hams and Non-Hams - Club Members and Non-Club Members.

You’ve Got Your License, Now What!
Monday, July 15, 2024 @ 1800 Hours
W2MMD Clubhouse

An evening of exposure to *“Where Do I Go From Here!”* items that will hopefully help to guide the new or recently upgraded ham to Amateur Radio activities in which those individuals may have an interest.

GCARC Monthly VE Exam Testing Summary - June 13, 2024

Gary Reed, N2QEE, Reports : The GCARC monthly VE session was held on June 13, 2024.

There were 9 candidates in attendance with 7 for new licenses and 1 upgrade.

The successful candidates were :

- **Diane Amico, KE2DPT, Technician Class of Vineland**
- **Mike Angelastro, KE2DPQ, Technician Class of Cherry Hill**
- **Daniel Caguiat, KE2DPR, both Technician and General Class of Sicklerville**
- **Kerri Caguiat, KE2DKD, upgrade to General Class of Sicklerville**
- **Harry Eshleman Jr, KE2DQA, Technician Class of Monroeville**
- **Leonard Ford, KE2DPS, Technician Class of Newport**
- **Ron Newman, KE2DPO, Technician Class of Millville**
- **Rosemarie Newman, KE2DPP, Technician Class of Millville**

The upgrade was posted to the URL Friday and the Technicians were posted on Tuesday and Wednesday. This was half of the ongoing Technician class who tested before the conclusion of the sessions.

The participating VE's were :

- **Mike N2WOQ**
- **Chris AD2CS**
- **Court KD2SPJ**
- **Earl KC2NCH**
- **Greg W5DO**
- **Jerry K2EAB**
- **Rich W2RHS**
- **Mike N2MHO**
- **Gary N2QEE**

Another big thank you to the participating VE for a busy full house session.

The new Amateur Extra exam pool questions took effect on July 1st. All question pools are available on the w2mmd.org website at : **https://gloucestercountyarc.weebly.com/get-your-ham-ticket.html**

The next monthly VE session will be held July 11, 2024 @ 1900 Hours at the W2MMD Clubhouse.

GCARC VE Exam Testing Summary - June 24 - 25, 2024

Gary Reed, N2QEE, Reports : There were two additional VE sessions this month for the Technician class and the General class. The Technician license class VE session had 8 candidates with the results being 6 new Techs and an upgrade to General. The new Tech licensee's were :

- **Diane Amico KE2DPT, of Vineland : Upgrade to General Class**
- **James Beury KE2DRN, of Sewell**
- **Anish James KE2DRI, of Mount Laurel**
- **John McGonigle KC3ZJX, of Drexel Hill, PA**
- **Angela Metzger KE2DRJ, of Vineland**
- **Sheree Revilla KE2DRK, of Woodbury**
- **Gregg Rudinski KE2DRM, of North Cape May**

The participating VE's were :

- **Chris AD2CS**
- **Rich W2RHS**
- **Jeff WB2ZBN**
- **Mike N2WOQ**
- **Jerry K2EAB**
- **Earl KC2NCH**
- **Court KD2SPJ**
- **Gary N2QEE**
- **Also additional help provided by Donna N2QED**

The General license class VE session had 7 candidates with 5 upgrades to General. The successful upgrades were :

- **Ron Newman KE2DPO, of Millville**
- **Rosemarie Newman KE2DPP, of Millville**
- **Aimée Ortiz K9RVT, of Clementon**
- **Jacob Scholz KC2QYT, of Williamstown**
- **Jason Watkins KD2VVJ, of Vineland**

The participating VE's were :

- **Rich W2RHS**
- **Chris AD2CS**
- **Earl KC2NCH**
- **Greg W5DO**
- **Jeff WB2ZBN**
- **Mike N2WOQ**
- **Jerry N2EAB**
- **Court KD2SPJ**
- **Mike N2MHO**
- **Gary N2QEE**

A big thank you to the participating VE's and especially the Sherpa's who get my testing material in the Clubhouse. Note : The new licenses have been taking three days plus depending on when they pay the fee.

DAs and DITs

>> Congratulations to following Club members who upgraded :

- **Diane Amico, KE2DPT**, New Technician and upgrade to General Class
- **Mike Angelastro, KE2DPQ**, New Technician Class
- **James Beury, KE2DRN**, New Technician Class
- **Kerri Caguiat, KE2DKD**, Upgraded to General Class
- **Anish James, KE2DRI**, New Technician Class
- **Angela Metzger, KE2DRJ**, New Technician Class
- **Ron Newman, KE2DPO**, New Technician and upgrade to General Class
- **Rosemarie Newman, KE2DPP**, New Technician and upgrade to General Class
- **Aimée Ortiz, K9RVT**, Upgrade to General Class
- **Sheree Revilla, KE2DRK**, New Technician and upgrade to General Class
- **Jacob Scholz, KC2QYT**, Upgrade to General Class
- **Jason Watkins, KD2VVJ**, Upgrade to General Class

>> Get well to **John Hill, W2HUV** and **Mario Tagliaferri, W3CGS**, who are recovering from their recent medical issues.

"Dinner @ The W2MMD Clubhouse"
Wednesday, July 24, 2024 @ 1800 Hours
W2MMD Clubhouse

Tuesday & Thursday Nights 10M Rag Chew Net @ 1930 Hours
28.465 MHz or 28.475 MHz

Thursday Night 40 Meter Net @ 1930 Hours
7.230 MHz (+ / - 5 kHz)
NCS : Jim Clark, KA2OSV

W2MMD

www.facebook.com/W2MMD

twitter.com/w2mmd_gcarc

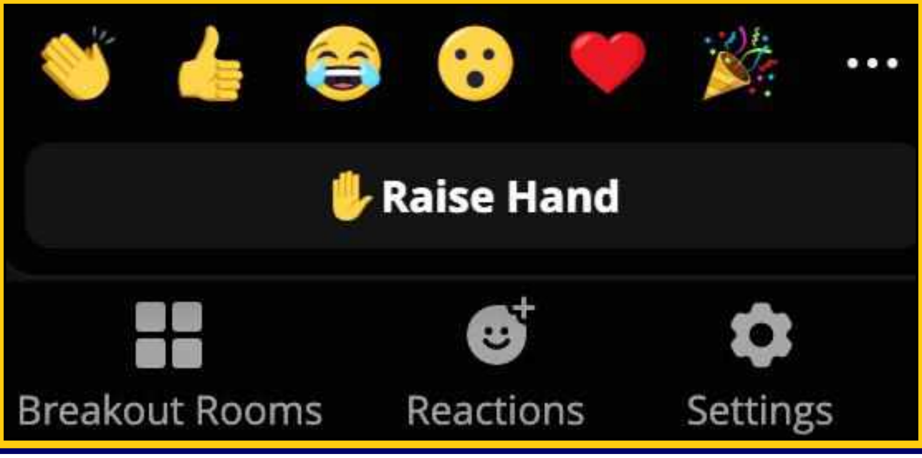
Facebook

ZOOM Protocols For GCARC Meetings

To provide for a more pleasant and efficient ZOOM experience for our Club members, several protocols have been established for use at these meetings.

- **All participants will be MUTED by the administrator.**
- **If you wish to comment, please use the ZOOM “Raise Hand” feature. (See Below)**
  - **In the meeting controls, click “Reactions”, then click “Raise Hand”.**
  - **Users can also raise or lower their hand with the Alt+Y (Windows) or Option+Y (macOS) keyboard shortcuts.**
- **The administrator will then un-mute you so you can join the conversation. You will not be able to un-mute yourself.**
- **If you are going to use your camera, please be attired as you would be if physically coming to the meeting. Otherwise, please turn off your video.**

Thanks for following these points to help our meetings run smoothly.



ADIF Logs Wanted When Operating As W2MMD @ The Clubhouse

By Jim Wright, N2GXJ - jim.n2gxj@gmail.com

It is a common courtesy in ham radio to be able to QSL 2-way contacts made with other hams. We're pretty good about doing this for our field day contacts made each year, but are falling behind in this for contacts we make from the Clubhouse as W2MMD.

So here is the ask :

If you operate from the Clubhouse as W2MMD (e.g. on HF, UHF/VHF, or on Satellite, at Tech Saturday, or during contests or other), please email me the electronic log entries in ADIF format from the logger program you used for those contacts?

That way, just like I do following field day each year, I can get them uploaded to LOTW and to eQSL to offer the courtesy of an electronic QSL to those who make contact with us as W2MMD here in NJ.

Thank you

Regional (Atlantic & Hudson Divisions) Hamfests & Events

July 6, 2024 : Harrisburg Radio Amateurs Club, Firecracker Hamfest, Harrisburg Postal Employees Picnic Grounds, 1500 Roberts Valley Road, Harrisburg, PA. **www.w3uu.org**

July 7, 2024 : Murgas Amateur Radio Club, Murgas ARC Hamfest, Polish American Veterans, 2 South Oak Street, Plains, PA. **www.murgasarc.org**

July 7, 2024 : Somerset County Amateur Radio Club, Somerset County PA Hamfest, Somerset County Technology Center, 281 Technology Drive, Somerset, PA. **www.k3smt.org**

July 13, 2024 : Wattsburg Wireless Association, NW PA Hamfest, Greene Township Municipal Building, 9333 Tate Road, Erie, PA. **www.wattsburgwireless.org**

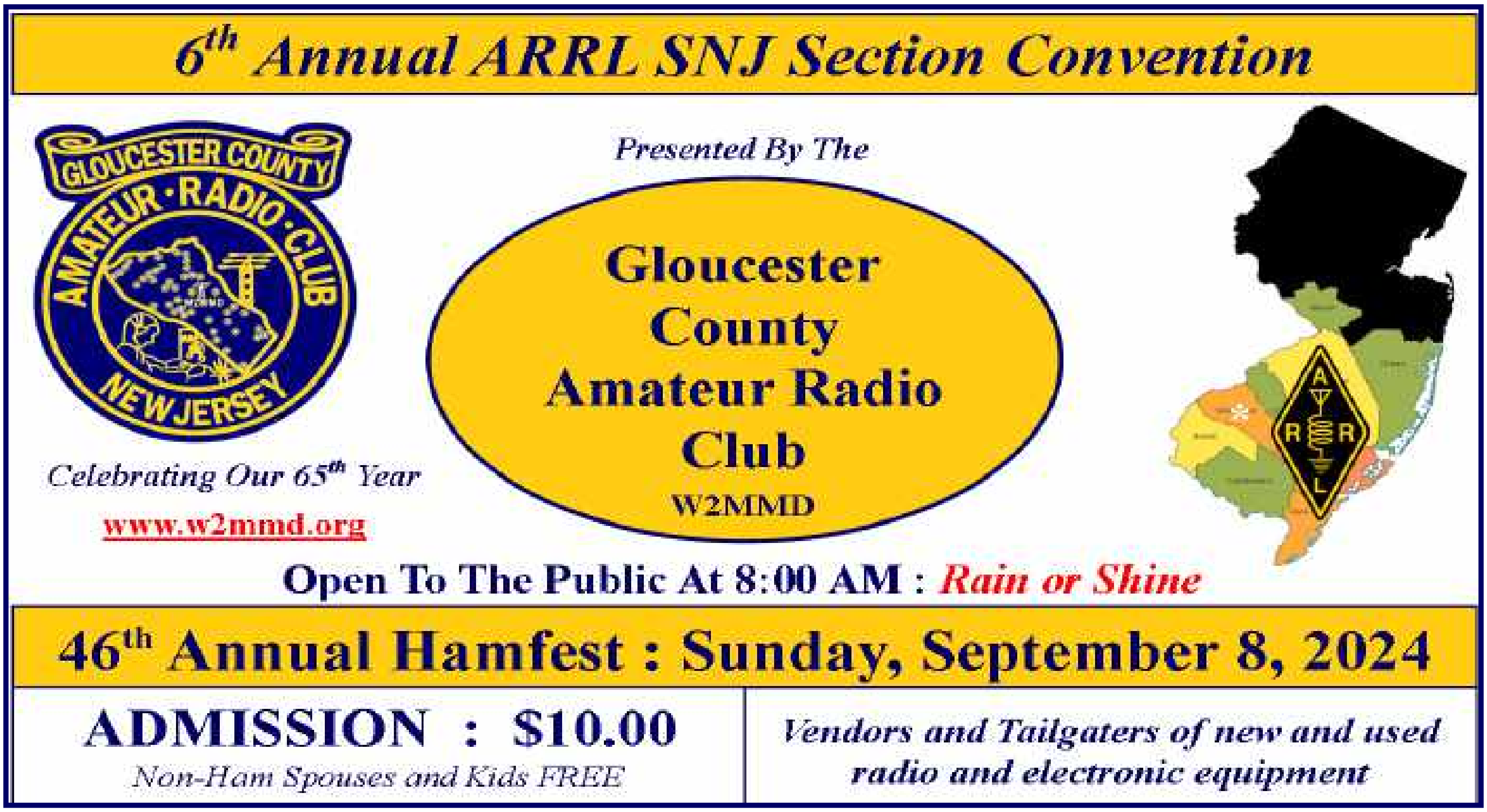
July 13, 2024 : Radio Amateurs of Greater Syracuse, Roger's RAGS Hamfest, Camillus Elks Lodge #2367, 6117 Newport Road, Camillus, NY. **www.ragsclub.org**

July 14, 2024 : Sussex County Amateur Radio Club, 2024 SCARC Hamfest, Sussex County Farm & Horse Show Fairgrounds, 37 Plains Road, Augusta, NJ. **www.scarcnj.org**

July 20, 2024 : Lancaster Amateur Radio Club, Batavia Hamfest, Alexander Firemen Grounds, 10708 Alexander Road, Route 98, Alexander, NY. **www.w2so.org**

July 27, 2024 : New Jersey Antique Radio Club, NJARC Summer Hamfest Swapmeet Show, InfoAge Science and History Museums, 2201 Marconi Road, Wall, NJ. **www.njarc.org**

July 27, 2024 : Cumberland Valley Amateur Radio Club, CVARC Annual Hamfest, Chambersburg Steam and Engine Show Grounds, 1500 Criders Church Road, Chambersburg, PA. **www.w3ach.com**



6th Annual ARRL SNJ Section Convention

Presented By The

Gloucester County Amateur Radio Club

W2MMD

Celebrating Our 65th Year

www.w2mmd.org

Open To The Public At 8:00 AM : *Rain or Shine*

46th Annual Hamfest : Sunday, September 8, 2024

ADMISSION : $10.00

Non-Ham Spouses and Kids FREE

Vendors and Tailgaters of new and used radio and electronic equipment

GLOUCESTER COUNTY
AMATEUR · RADIO · CLUB
NEW JERSEY
A R R L

The Education Connection

By Chris Prioli, AD2CS - chris@ad2cs.com
www.ad2cs.com

July 2024

Well, the seventh session of the GCARC License Preparation Class program is now in the books. Many thanks to **Gary Reed N2QEE**, **Greg Ciraula W5DO**, and **Mike Resnick N2WOQ** for their assistance in making this happen.

We had a very large group for the Element 2 (Technician) class, numbering eighteen students, and a medium-sized group for the Element 3 (General) class, which had seven students. Of those who tested, all but one of each group passed their exams, with many of the students posting perfect scores. Results like that show exactly why we, as a Club, continue to offer such classes, and will continue to do so.

Almost a half of the Element 2 group decided to take their exams early, testing on the regular second-Thursday test night instead of waiting for their scheduled test date ten days later. The truly amazing thing is that the vast majority of those students *still came to the remaining class meeting*, anxious to learn all that they could.

Here is the list of the new Technician Class :

- **Diane Amico, KE2DPT**
- **Mike Angelastro, KE2DPQ**
- **Jim Beury, KE2DRN**
- **Harry Eshleman, KE2DQA**
- **Leonard Ford, KE2DPS**
- **Anish James, KE2DRI**
- **John McGonigle, KC3ZJX**
- **Angela Metzger, KE2DRJ**
- **Ron Newman, KE2DPO**
- **Rosemarie Newman, KE2DPP**
- **Sheree Revilla, KE2DRK**
- **Gregg Rudinski, KE2DRM**

In addition, the following individuals have earned upgrades to General Class :

- **Diane Amico, KE2DPT**
- **Ron Newman, KE2DPO**
- **Rosemarie Newman, KE2DPP**
- **Aimée Ortiz, K9RVT**
- **Jake Scholz, KC2QYT**
- **Jason Watkins, KD2VVJ**

Congratulations to all of those listed above.

Education Connection - Continued on page 16

Education Connection - Continued from page 15

On another topic, it occurs to me that we don't always think of Field Day as an educational event, but it often is. In particular, we held a short but informative educational session during the Saturday afternoon portion of this year's Field Day exercises. In particular, we had a group of attendees who were briefly instructed, and had the opportunity to participate in a hands-on fashion, regarding the installation of no-solder "N" type connectors to a length of RG-213 coaxial cable.

Each participant was provided with a short section of cable and a connector kit. There was a handout provided that detailed the assembly sequence and the cable preparation lengths. The process was demonstrated, and then each participant followed the instructions and installed the connector to the cable.

While there was some discussion as to whether or not crimping a center pin is an acceptable practice, it is nonetheless within the connector manufacturer's guidelines. As such, this exercise illustrated the ease with which a connector can be installed to a cable in the field.

That's all for this edition… see you next month.

> ***"Ask not what your Club can do for you,***
> ***Ask what you can do for your Club"***
> ***- KA2OSV***

TX7W cfms a 2X QSO with W2SEF

Date	Time	Freq	Mode	RST
27-Apr-24	2224Z	24.915	FT8	-21

QSL Card (1) from Austral Islands sent to Steve Farney, W2SEF

Tuesday AfterNoon Net @ 1200 Hours

Net Control Stations :

Steve Farney, W2SEF; Chris Prioli, AD2CS; Greg Ciraula, W5DO; Rich Subers, W2RHS, & Jeff Garth, WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Greg Ciraula, W5DO : July 2, 2024
Chris Prioli, AD2CS : July 9, 2024
Steve Farney, W2SEF : July 16, 2024
Steve Farney, W2SEF : July 23, 2024
Jeff Garth, WB2ZBN : July 30, 2024

If you would like to be a Net Control Station for this net, please contact Steve Farney, W2SEF

Thursday Night Rag Chew Net @ 2000 Hours

Net Control Stations :

Chris Prioli, AD2CS; Mary Delemarre, W2TDS; Gary Mirkin, WA3SVW; Steve Farney, W2SEF; Greg Ciraula, W5DO; & Jeff Garth, WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Happy Independence Day : July 4, 2024
Mary Delemarre, W2TDS : July 11, 2024
Gary Mirkin, WA3SVW : July 18, 2024
Steve Farney, W2SEF : July 25, 2024

If you would like to be a Net Control Station for this net, please contact Jeff Garth, WB2ZBN

So you find our website confusing, can’t find anything, Well So Do I!!

I have created a page *(What, Not Another Page!!)* called “Quick Links”

On this page you will find “Buttons” to some the most popular pages
I will add more as time goes on, but I hope this helps your journey navigating through your Club Website!
https://gloucestercountyarc.weebly.com/quick-links.html

Gloucester County Skywarn Net

The Gloucester County Skywarn Net is held every Sunday @ 1930 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All Are Welcome To Participate

Net Control Stations : Steve Bromhead KB2RTZ, Greg Ciraula W5DO, Bob Keogh KD2NEC, Charlie Wahl, KC2STO, & Jeff Garth WB2ZBN

Gloucester County ARES Net

The Gloucester County ARES Net is held every Sunday @ 2000 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All are welcome to participate

Net Control Stations : Steve Farney W2SEF, Greg Ciraula W5DO, Bob Keogh KD2NEC, Karl Frank W2KBF, Al Arrison KB2AYU, Gary Mirkin WA3SVW, Todd Woodward KD2ESH, & Jim Wright N2GXJ

ARRL Learning Center

https://learn.arrl.org

Discover how to make Amateur Radio your own.

Online courses from the ARRL Learning Center provide ARRL members with additional instruction and training for getting on the air, emergency communications, and electronics and technology.

Current Website Updates : Go to this page to find out the latest changes & updates on our W2MMD Website
https://gloucestercountyarc.weebly.com/current-website-updates.html

At The Repair Bench…

A monthly column describing a recent repair bench event.

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

MFJ-941E Versa Tuner II - July 2024

A short while ago, one of our fellow GCARC Club members asked me about making a repair to his MFJ antenna tuner, a model **941E Versa Tuner II (Figure 1)**. It seems that he had grown tired of having to shine a flashlight on the panel meter to read the crossed needles at night. Apparently, the factory illumination for the panel meter, a 12V incandescent lamp, had failed, as they are prone to doing. I decided to make a far more permanent repair by fitting a white LED in place of the incandescent lamp. I also noted that one of the four rubber bumper "feet" for the unit was missing.

I opened up the unit - a total of eight screws, with three on each side and two across the top front of the cover - and checked to make sure that the lamp had actually failed and that there was not some other problem. With 13.8V supplied to the rear panel power inlet for the lamp, and with the lamp switch in its "ON" position, I had the full 13.8V across the (dead) lamp. Lamp failure was confirmed.

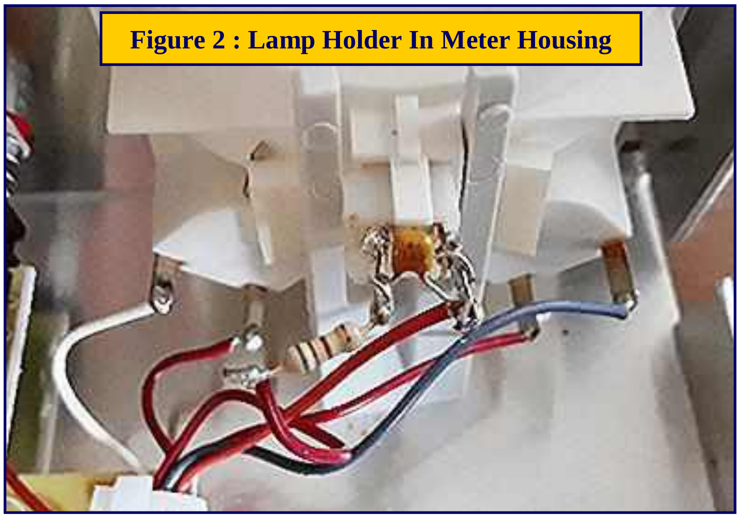


Figure 2 : Lamp Holder In Meter Housing

I removed the lamp holder from its place in the **meter housing (Figure 2)**, and then set about removing the lamp from the holder. That took a little bit of doing because of the manner in which the lamp's bare wire leads had been fed through the holder and wrapped around the socket terminals of the holder. In addition, there is a 0.01µF ceramic disc capacitor across the lamp, and that had to be dealt with as well. I worked at it, and eventually had the holder completely stripped and disassembled.

Disassembly of the holder was necessary in order to make a provision for the LED leads to pass through the holder base alongside the socket terminals. The LED leads are much heavier than were the lamp wire leads, and I needed to make holes for the leads to run through. That was simple enough, using a "T" pin and a pair of long-nose pliers to push the pin through the plastic alongside the terminal contacts.

I gathered up the necessary parts - a white 5mm LED, a 510Ω 250mW 5% resistor for current limiting, and a replacement for the 0.01µF capacitor that was unavoidably damaged in removal. The LED fit perfectly into the lamp holder, and I wrapped the LED leads around the terminal contacts. I then added the resistor to the cathode terminal, after which I installed the capacitor across the LED.

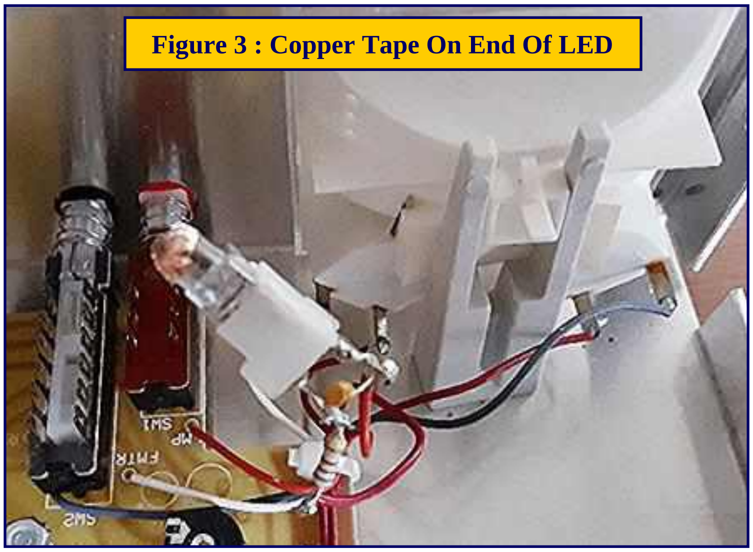
At The Repair Bench - Continued on page 20

At The Repair Bench - Continued from page 19

I soldered the components in place and formed a small hook on the opposite end of the resistor, so as to facilitate connection of the cathode lead there. Finally, I soldered the lamp circuit wires to the lamp holder terminal (anode) and to the resistor (cathode), cleaning up the excess lead lengths.

The incandescent lamp and the LED emit light in different patterns. The incandescent lamp emits its light in a diffuse pattern all around the lamp envelope without any particular focus. The LED, on the other hand, emits most of its light in the forward direction off the end of the LED envelope. This caused an objectionable "white spot" to appear in the center of the meter when the LED was powered up. I resolved that issue by applying a **dome cap of copper tape (Figure 3)** to the very end of the LED envelope, blocking most if not all of the light in the immediate forward direction. As a result, the illumination of the meter is now more diffuse while still being sufficiently bright for reading the meter under any ambient light level. I installed the cover and gave the unit a final look-over.

Figure 3 : Copper Tape On End Of LED



At that point, I remembered the missing rubber bumper "foot" on the unit. I removed the remaining three bumpers, which were barely holding on, and cleaned the surface thoroughly with some 99.9% IPA. Then, I installed a matched set of four new bumpers to the bottom of the unit. Job done.

Sometimes, repairs can make a piece of equipment better than the factory design level. I am not sure, in today's electronic world, why MFJ chose to use incandescent illumination other than maybe the fact that it made diffusion of the produced light a non-issue and therefore cut some minor expense. However, it also built in some planned failures, which could easily have been avoided. This unit should never suffer another panel meter illumination failure.

See you next month!

NTS Resources

The National Traffic System® (NTS) is a network of Amateur Radio operators who move information during disasters and other emergencies. General messages offering well wishes also move through the NTS to help test the system and to help amateur radio operators build traffic handling skills. While the NTS is primarily set up to serve the United States and Canada, it is possible to move traffic internationally through the NTS through various local, regional, area, and international network connections.

- **NTS 2.0 : https://nts2.arrl.org**
- **NTS Manual : https://www.arrl.org/nts-manual**
- **NTS Methods and Practices Guidelines Table of Contents : https://www.arrl.org/table-of-contents-nts-methods-and-practices-guidelines**
- **Handling Instructions : https://nts2.arrl.org/hx-handling-instructions**
- **Numbered Texts : https://nts2.arrl.org/numbered-texts**
- **Form Encoding Rules for Form : https://nts2.arrl.org/form-encoding-rules-for-forms**

Club Member	DMR ID
W2MMD Clubhouse	**3198604**
Michael Andrescavage, N2ICV	3134044
Lance Appel, KE2UC	3200487
Alex Calabrese, WA2ADS	3100583
Chuck Capasso, WB2PGE	3169781
Matthew Carango, N3QB	3169432
Todd Cecilio, KA2YNT	3169458
Anthony Cerami, N2OAC	3202759
Mark Clark, N3QMJ	3102110
Holden Correia-Fisher, KD2JPV	3104911
Mike Covaleski, N2MMC	3134855
Walter Coward, WX2E	3166863
Bob Demola, KD2GFL	3134319
Doug Dersch, KD2VQA	3193630
Thomas Distelcamp Sr, KC2GYC	3110869
Glenn Dougherty, N2YIO	3161836
Adam Duncan, W3DUN	3202691
Herb Dyer, KT2Y	3134907
Harry Elwell, AD5TT	3128498
James Foster, W3JNF	3142117
Karl Frank, W2KBF	3146716
Glen Guenther, KE2BUO	3202079

Club Member	DMR ID
Melissa Guenther, KE2BWZ	3202496
Deirdre Anne Hebert, AD2GQ (AB1ST)	3133330
Gary Mirkin, WA3SVW	3165494
John Murrow, KD2NHK	1134122
Phil Nunzio, WA3RGY	3134336
John O'Connell, K2QA	3110610
Robert Pantazes, W2ARP	3157208
Jon Pearce, WB2MNF	3163415
Mike Pecorini, K2MRP	3132996
Michael Pentimall, KC3VTF	3203601
John Price III, KD2QYC	3123583
Chris Prioli, AD2CS	3195449
Len Rust III, W2LJR	3186225
Len Rust IV, K2LJR	3196243
Dave Sheppard, W2PAX	3112666
Cory Sickles, WA3UVV	1142052
James Simeone, KC2AOF	3134848
Court Smith, KD2SPJ	3186243
Jackson Snyder, AI2D	3164371
Rich Subers, W2RHS	3204316
Brett Waller, K2BKW (KC2UXQ)	3134261
Bill Wood, KD2OSJ	3197459
John Zaruba Jr, K2ZA	3134331

For more information, DMR links, and W2LJR's DMR presentations, go to :
https://gloucestercountyarc.weebly.com/dmr.html

CrossTalk Submissions

This is your Club Magazine. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so!

We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments, and editorials should be addressed to :
Jeff Garth, WB2ZBN at djgrath1 <*at*> gmail <*dot*> com

Submission deadline for the August 2024 issue : Saturday, July 20, 2024

Club Website www.w2mmd.org
Club E-Mail Reflector: GCARC <*at*> Mailman <*dot*> QTH <*dot*> net

DMR Configuration Sequence

1. Obtain and Configure DMR ID :
    - https://www.radioid.net
2. Download Contact List :
    - http://www.dmrcontacts.com
3. Identify Repeater or Hotspot :
    - https://www.repeaterbook.com
4. Define Talk Groups
    - Numerical ID
    - Text Name

https://brandmeister.network/?page=talkgroups

5. Create Channel
    - Select Number
    - Assign Name
    - Select DMR ID
    - Assign Frequency
        - ♦ Transmit
        - ♦ Receive
        - ♦ Bandwidth
        - ♦ Power
        - ♦ DMR Mode (Simplex/Repeater)
        - ♦ TX Permit (Channel Free)
    - Assign Talk Group
    - Assign Color Code
        - ♦ Agreed Upon with Other Users
    - Assign Time Slot
    - Agreed Upon with Other Users

6. Create Zone

7. Add Channels to Zones

8. Configure Features

9. Upload Code Plug

10. Upload Contact List

If you recently changed your callsign, contact idteam@dmr-marc.net to have your DMR ID transferred to your new callsign.

ARES Resources

Download the ARES Manual [PDF] : https://bit.ly/3iUhJLQ
ARES Field Resources Manual [PDF] : https://bit.ly/3QT4PtY
ARES Standardized Training Plan Task Book [Fillable PDF] : https://bit.ly/3wg5kVt
ARES Standardized Training Plan Task Book [Word] : https://bit.ly/3ZTNDbR
ARES Plan : https://bit.ly/3XLokXH
ARES Group Registration : http://bit.ly/3XodGpX
Emergency Communications Training : http://bit.ly/3J2gMMf
2022 National Preparedness Report : https://bit.ly/3EnvcTW
Southern New Jersey Section EOP 2022.PDF : https://bit.ly/3SbrXol

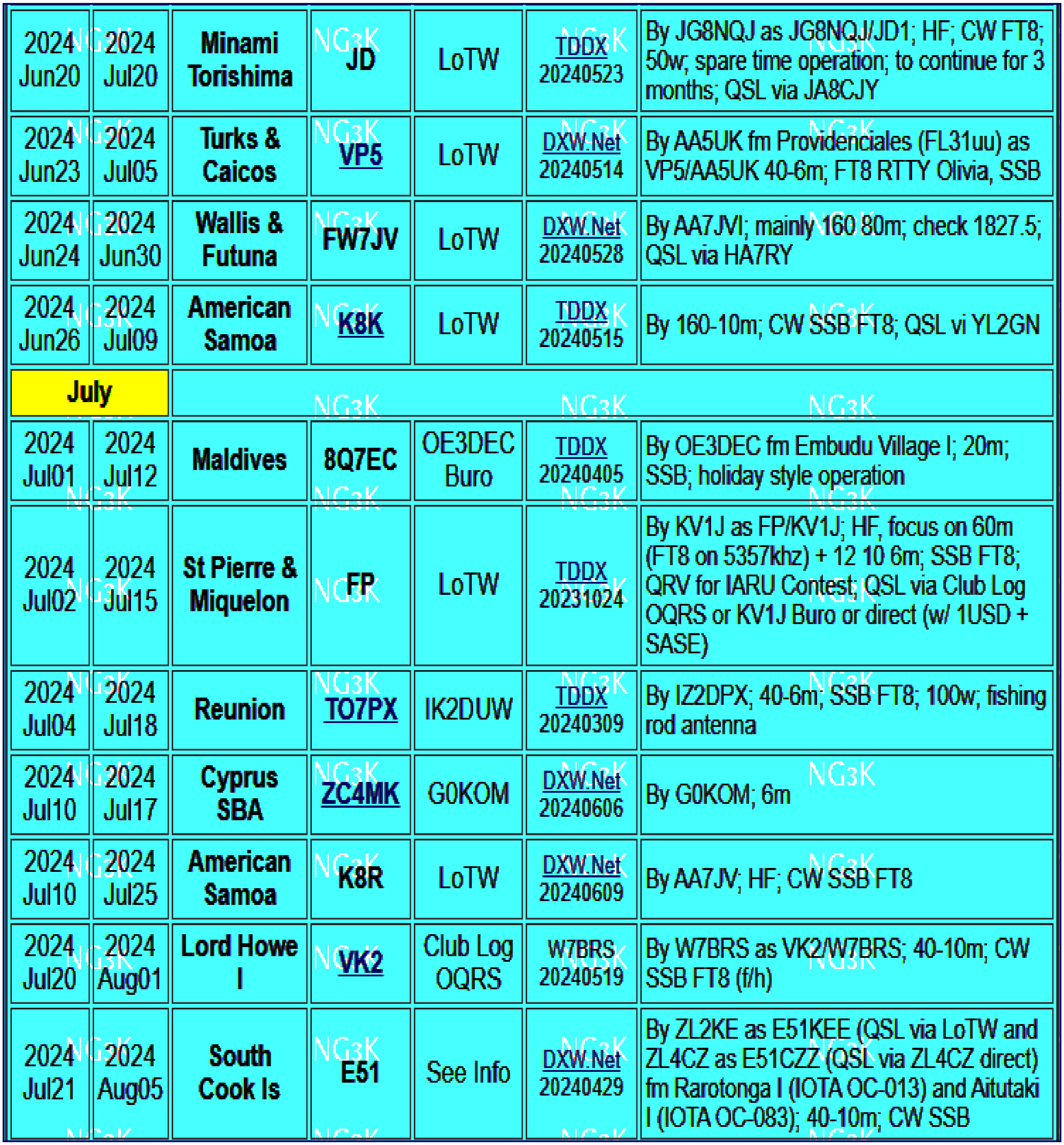
The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable but is not a requirement for membership.

If you are interested in learning more about the Gloucester County ARES Program or becoming an ARES member, please contact Bob Keogh (KD2NEC@QSL.NET)

Announced DX Operations

www.ng3k.com/Misc/adxo.html

From The Shack of Bill Feidt, NG3K : www.ng3k.com

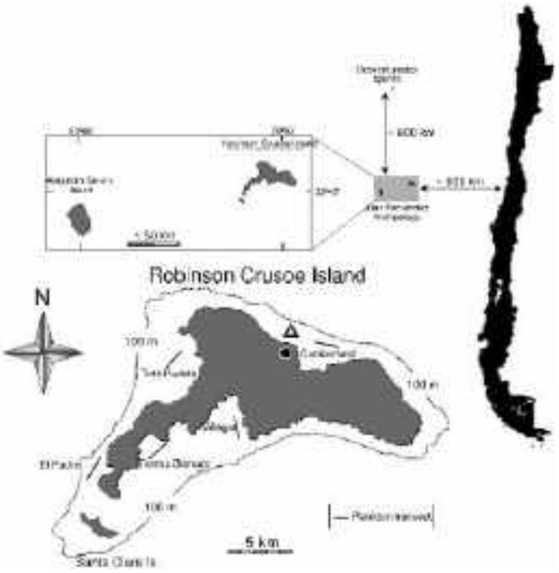


2024 Jun20	2024 Jul20	**Minami Torishima**	**JD**	LoTW	TDDX 20240523	By JG8NQJ as JG8NQJ/JD1; HF; CW FT8; 50w; spare time operation; to continue for 3 months; QSL via JA8CJY
2024 Jun23	2024 Jul05	**Turks & Caicos**	**VP5**	LoTW	DXW.Net 20240514	By AA5UK fm Providenciales (FL31uu) as VP5/AA5UK 40-6m; FT8 RTTY Olivia, SSB
2024 Jun24	2024 Jun30	**Wallis & Futuna**	**FW7JV**	LoTW	DXW.Net 20240528	By AA7JVI; mainly 160 80m; check 1827.5; QSL via HA7RY
2024 Jun26	2024 Jul09	**American Samoa**	**K8K**	LoTW	TDDX 20240515	By 160-10m; CW SSB FT8; QSL vi YL2GN
July						
2024 Jul01	2024 Jul12	**Maldives**	**8Q7EC**	OE3DEC Buro	TDDX 20240405	By OE3DEC fm Embudu Village I; 20m; SSB; holiday style operation
2024 Jul02	2024 Jul15	**St Pierre & Miquelon**	**FP**	LoTW	TDDX 20231024	By KV1J as FP/KV1J; HF, focus on 60m (FT8 on 5357khz) + 12 10 6m; SSB FT8; QRV for IARU Contest; QSL via Club Log OQRS or KV1J Buro or direct (w/ 1USD + SASE)
2024 Jul04	2024 Jul18	**Reunion**	**TO7PX**	IK2DUW	TDDX 20240309	By IZ2DPX; 40-6m; SSB FT8; 100w; fishing rod antenna
2024 Jul10	2024 Jul17	**Cyprus SBA**	**ZC4MK**	G0KOM	DXW.Net 20240606	By G0KOM; 6m
2024 Jul10	2024 Jul25	**American Samoa**	**K8R**	LoTW	DXW.Net 20240609	By AA7JV; HF; CW SSB FT8
2024 Jul20	2024 Aug01	**Lord Howe I**	**VK2**	Club Log OQRS	W7BRS 20240519	By W7BRS as VK2/W7BRS; 40-10m; CW SSB FT8 (f/h)
2024 Jul21	2024 Aug05	**South Cook Is**	**E51**	See Info	DXW.Net 20240429	By ZL2KE as E51KEE (QSL via LoTW and ZL4CZ as E51CZZ (QSL via ZL4CZ direct) fm Rarotonga I (IOTA OC-013) and Aitutaki I (IOTA OC-083); 40-10m; CW SSB

Also for your convenience, there is a direct link to NG3K on our website. Click on the NG3K DX Page.

Robinson Crusoe Island DXpedition QSL Cards

By Bob Pantazes, W2ARP



Now that the Robinson Crusoe Island DXpedition is QRT, there is one more function that is needed. Filling the request for a QSL card. This mission was handled by the South Jersey DX Association of Tuckerton, NJ. (**http://www.sjdxa.org**)

Club President Bob Schenck, N2OO and his wife **Beth, KF2BQ** received the QSL cards and also the ClubLog request for a card.

The DXpedition had 3 calls, CB0ZA, CB0ZEW and CB0ZW. They wanted to insert the cards to the recipient in one envelope, to save on postage. Beth, a retired teacher came up with the best way to accomplish this task. First all of the QSL cards were checked in the log and then a label was printed for the QSOs. Then the labels were sorted on the recipients call in three batches one for each of the CB0 calls.

Now how did they accomplish inserting up to 3 cards into one envelope. They had three assembly lines consisting of 3 club member volunteers in each line. The first person had the most labels and would apply the label to a card, pass it to the next person who would check the labels for the second call to see if the person worked the DXpedition a second time. If so, a label would be put on the correct QSL card and passed to the third person to do the same with the last call. Then all the QSLs would be sent to the next room where the team stuffed the mailing envelopes with cards, sponsor’s inserts, weighed, and applied proper postage.

They printed over 10,000 labels for the +100,000 QSOs. Robinson Crusoe Island is part of the Juan Fernandez Island chain that is 400 miles off the coast of Chile. The DXpedition ran from February 10 to 24, 2024.

The next time you receive a QSL card from a large DXpedition please think of the team members that put the entity on the air and then the team that got you your QSL for DXCC credit.

Labeling The Cards

Getting Ready For Mailing

Be A Club Volunteer!

Club Technical Volunteer Projects :

- **Processing monthly membership meeting and Tech Saturday videos for the YouTube channel**
- **Assisting the AV team at the Wednesday Night General Membership Meetings**
- **Assisting in the inventory of Clubhouse assets and keeping that inventory current**
- **For the more technically inclined, managing the SatNOGS station, reviewing observations, and adding new satellites to the list of those being tracked**
- **Reviewing new technologies for presentation at meetings or write-ups in CrossTalk.**

For example, the VarAC HF digital communications program has recently been updated, it is installed on the HF station at the Clubhouse, and might provide an opportunity for an interesting short article or presentation

If you would like to volunteer for any of these projects, please contact Jon WB2MNF, Ron NR2B, or Chris AD2CS

Clubhouse Construction Volunteer Projects :

Shed : Build Ramp

Clubhouse :

- **Build Ramp**
- **Replace Interior Front Door**
- **Power Wash Siding**
- **Replace Back Steps**

Lightning Protection Project :

- **Install copper strapping in Library Room**
- **Install copper strapping in VHF/UHF Room**
- **Complete grounding rod installation around Clubhouse and Towers**

Install Utilities On New Front Parking Lot Pole

Install New VHF Towers

A *Club* that goes *above* and *beyond* for their communities and for Amateur Radio, is what defines a *Special Service Club (SSC).*

They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs, and actively pursue technical projects and operating activities.

GCARC has been an ARRL Affiliated Club since February 1960 and an SSC since April 2010.

2024-2028 Element 4 Amateur Extra Class License Question Quiz

This month we start the new 2024-2028 Element 4 Amateur Extra Class License Question Pool. The exam is 50 questions out of a pool of 602 questions. The old question pool had 621 questions. This question pool is effective as of July 1, 2024.

This month we start with Subelement E1 Commission Rules (6 exam questions - 6 groups).
(Answers on 'Last Page Calendar')

E1A01 [97.305, 97.307(b)]
Why is it not legal to transmit a 3 kHz bandwidth USB signal with a carrier frequency of 14.348 MHz?
A. USB is not used on 20-meter phone
B. The lower 1 kHz of the signal is outside the 20-meter band
C. 14.348 MHz is outside the 20-meter band
D. The upper 1 kHz of the signal is outside the 20-meter band

E1A02 [97.301, 97.305]
When using a transceiver that displays the carrier frequency of phone signals, which of the following displayed frequencies represents the lowest frequency at which a properly adjusted LSB emission will be totally within the band?
A. The exact lower band edge
B. 300 Hz above the lower band edge
C. 1 kHz above the lower band edge
D. 3 kHz above the lower band edge

E1A03 [97.305, 97.307(b)]
What is the highest legal carrier frequency on the 20-meter band for transmitting a 2.8 kHz wide USB data signal?
A. 14.0708 MHz
B. 14.1002 MHz
C. 14.1472 MHz
D. 14.3490 MHz

E1A04 [97.301, 97.305]
May an Extra class operator answer the CQ of a station on 3.601 MHz LSB phone?
A. Yes, the entire signal will be inside the SSB allocation for Extra class operators
B. Yes, the displayed frequency is within the 75-meter phone band segment
C. No, the sideband components will extend beyond the edge of the phone band segment
D. No, US stations are not permitted to use phone emissions below 3.610 MHz

E1A05 [97.5]
Who must be in physical control of the station apparatus of an amateur station aboard any vessel or craft that is documented or registered in the United States?
A. Only a person with an FCC Marine Radio license grant
B. Only a person named in an amateur station license grant
C. Any person holding an FCC issued amateur license or who is authorized for alien reciprocal operation
D. Any person named in an amateur station license grant or a person holding an unrestricted Radiotelephone Operator Permit

Element 4 Amateur Extra Class Quiz - Continued on page 27

Element 4 Amateur Extra Class Quiz - Continued from page 26

E1A06 [97.303(h)(1)]
What is the required transmit frequency of a CW signal for channelized 60 meter operation?
A. At the lowest frequency of the channel
B. At the center frequency of the channel
C. At the highest frequency of the channel
D. On any frequency where the signal's sidebands are within the channel

E1A07 [97.313(k)]
What is the maximum power permitted on the 2200-meter band?
A. 50 watts PEP (peak envelope power)
B. 100 watts PEP (peak envelope power)
C. 1 watt EIRP (equivalent isotropic radiated power)
D. 5 watts EIRP (equivalent isotropic radiated power)

E1A08 [97.219]
If a station in a message forwarding system inadvertently forwards a message that is in violation of FCC rules, who is primarily accountable for the rules violation?
A. The control operator of the packet bulletin board station
B. The control operator of the originating station
C. The control operators of all the stations in the system
D. The control operators of all the stations in the system not authenticating the source from which they accept communications

E1A09 [97.313(l)]
Except in some parts of Alaska, what is the maximum power permitted on the 630-meter band?
A. 50 watts PEP (peak envelope power)
B. 100 watts PEP (peak envelope power)
C. 1 watt EIRP (equivalent isotropic radiated power)
D. 5 watts EIRP (equivalent isotropic radiated power)

E1A10 [97.11]
If an amateur station is installed aboard a ship or aircraft, what condition must be met before the station is operated?
A. Its operation must be approved by the master of the ship or the pilot in command of the aircraft
B. The amateur station operator must agree not to transmit when the main radio of the ship or aircraft is in use
C. The amateur station must have a power supply that is completely independent of the main ship or aircraft power supply
D. The amateur station must operate only in specific segments of the amateur service HF and VHF bands

E1A11 [97.5]
What licensing is required when operating an amateur station aboard a US-registered vessel in international waters?
A. Any amateur license with an FCC Marine or Aircraft endorsement
B. Any FCC-issued amateur license
C. Only General class or higher amateur licenses
D. An unrestricted Radiotelephone Operator Permit

Combination Capacitor Leakage and ESR Tester Build

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

Back in February 2022, I decided to design and build a multi-function capacitor tester **(Figure 1)** for use in my shop. The reason for this project was because I could not find a decent tester at a reasonable price that would make the specific tests in which I was interested. What I wanted was a unit that could test a capacitor for leakage, and then test the same capacitor for its equivalent series resistance (ESR).

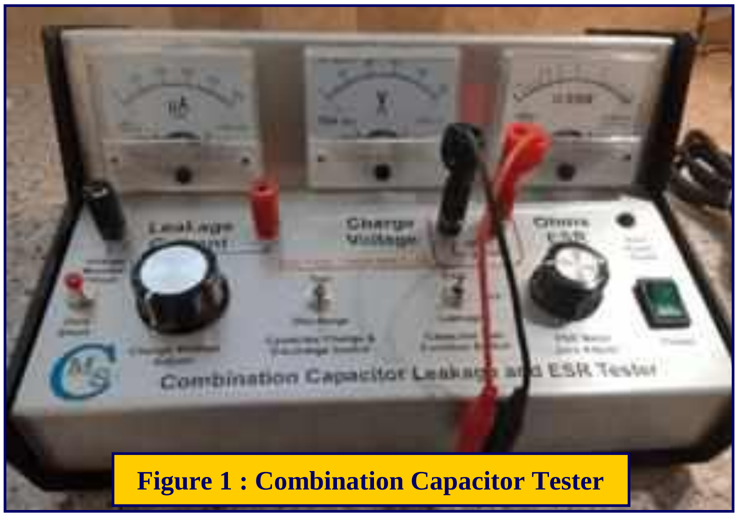


Figure 1 : Combination Capacitor Tester

Capacitor leakage occurs when a capacitor begins to behave more like a resistor than it does a capacitor, in that it begins passing DC rather than blocking it. The more leakage a capacitor exhibits, the more DC current will pass through that capacitor.

ESR is one of the failure modes of a capacitor, specifically that in which a capacitor has begun to dissipate energy and thus begin to heat up. Most capacitors will have some specific ESR that is permitted by the manufacturer, and that limit will generally be specified on the capacitor datasheet. ESR represents the AC resistance of a capacitor that causes that capacitor to dissipate energy. Generally speaking, the higher the nominal value of a capacitor, the lower the ESR specification will be. In a perfect or “ideal” capacitor, the ESR will be zero. In the real world, however, components are not ideal, and every component has some variance from the specifications of an ideal component of that type and value.

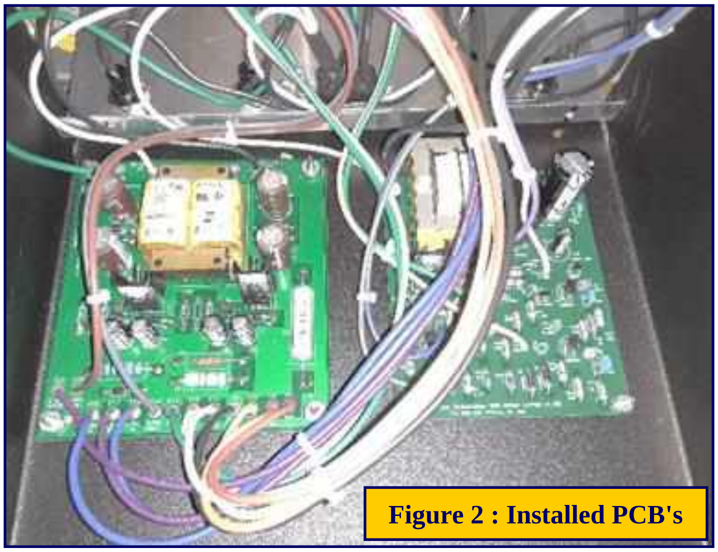


Figure 2 : Installed PCB's

Being an AC resistance, ESR is measured at some given frequency, often on the order of 120Hz for linear power supply capacitors, 100kHz for switchmode power supply capacitors, and 1kHz for audio capacitors. For simplicity of my design, I had to decide on a single test frequency to be used that would enable at least a representative measurement to be made. I settled on 100Hz for my ESR section’s oscillator because that is a value often specified by capacitor manufacturers for ESR specification testing.

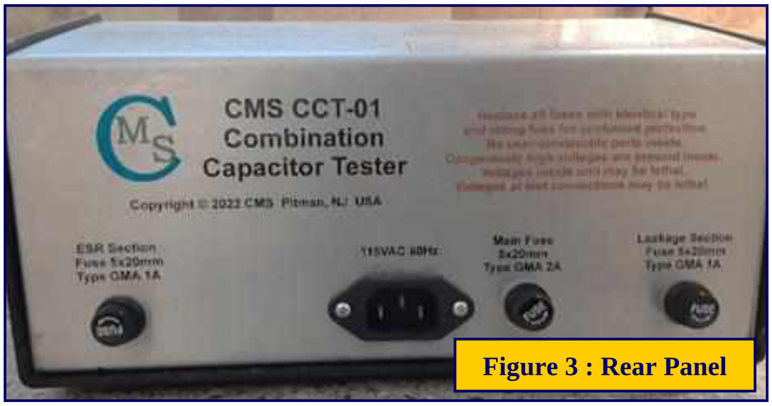


Figure 3 : Rear Panel

The tester is comprised of two printed circuit boards **(Figure 2)**, a leakage test section and the ESR test section. Each board has its own power supply, as the power requirements for the two boards are considerably different. The leakage section uses a transformer with a 230VAC center-tapped secondary, and outputs voltages up to five hundred volts DC. The ESR section is operated from a five-volt DC supply. Each section is fused independently, and there is also a master fuse for the entire unit. Thus, the rear panel **(Figure 3)** carries three fuse holders as well as the power inlet.

(AD2CS Capacitor Tester Build - Continued on page 29

AD2CS Capacitor Tester Build - Continued from page 28

The rear panel also has markings regarding the power source and general safety information and warnings, while the top panel **(Figure 4)** is labeled with the operating instructions. The front panel, a dual-angle panel, carries three meters as well as all of the operating controls. In addition, the front panel has leakage (volt) meter output jacks and the device-under-test (DUT) binding posts.

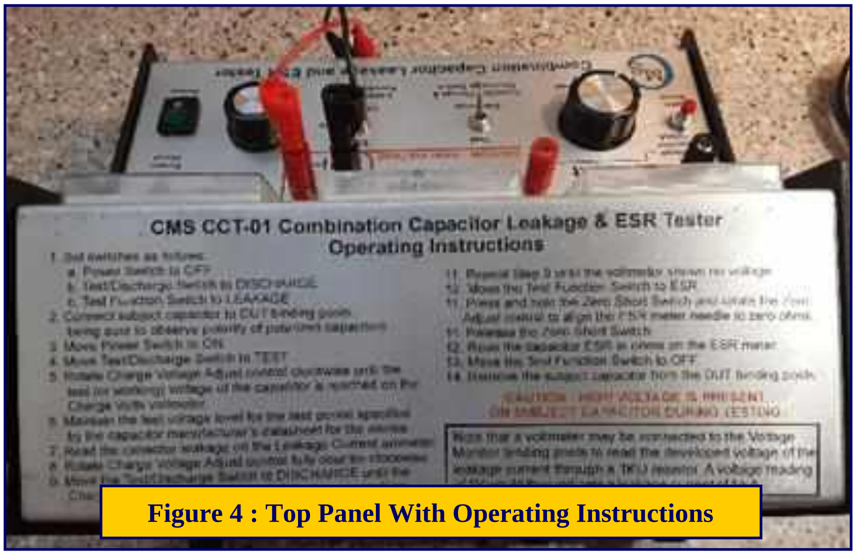


Figure 4 : Top Panel With Operating Instructions

All of the labeling of the unit panels was accomplished via water-slide decals printed on my color laser printer and installed in the same manner in which we used to apply decals to model airplanes when we were kids. The decal is soaked in warm water for a few seconds, and then is slid off its backer sheet and into place on the panel to which it is being applied. The excess water is blotted out from behind the decal, and then the decal is allowed to dry. Once dry, it is protected by two light coats of clear spray enamel. The funny thing is that this project enclosure started out with a white painted upper half. The problem was that I cut the openings for the meters in the wrong places and ruined the piece. Thus, I had to have a new panel cut and bent by a local metal supplier, so I ended up with the natural finish rather than the white surfaces that were originally intended to be there.

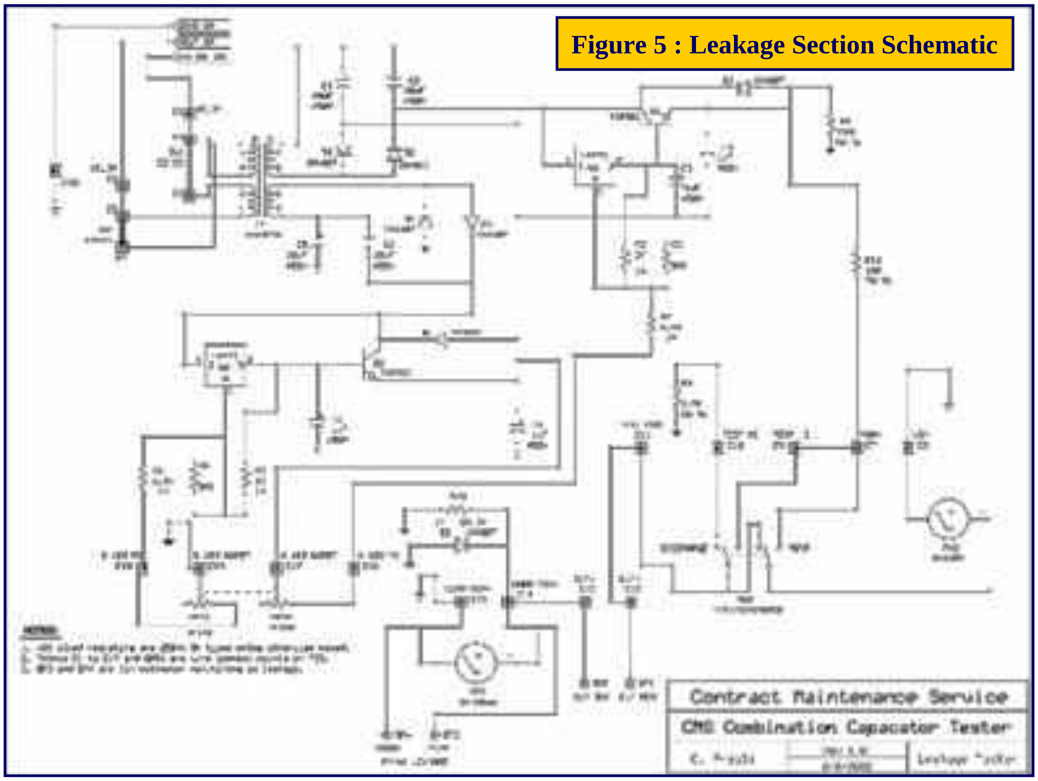

Contract Maintenance Service
CMS Combination Capacitor Tester

Figure 5 : Leakage Section Schematic

The individual schematics of the two sections **(Figures 5 and 6)** incorporate the necessary controls and meters, and also have some oddities. For example, when originally designed, the ESR section PCB was intended to have a fuse on the PCB. During construction however, I decided to move that fuse to the rear panel, so as to make the unit a no-open design as regards fuse replacement. Both PCB's have the power transformers for the individual stages directly mounted to the PCB.

This saved some real estate in the enclosure and enabled me to reduce the size of the enclosure required, which in turn provided for a more aesthetically-pleasing tester design. **Figure 8** shows the overall wiring diagram for the tester.

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AD2CS Capacitor Tester Build - Continued from page 29

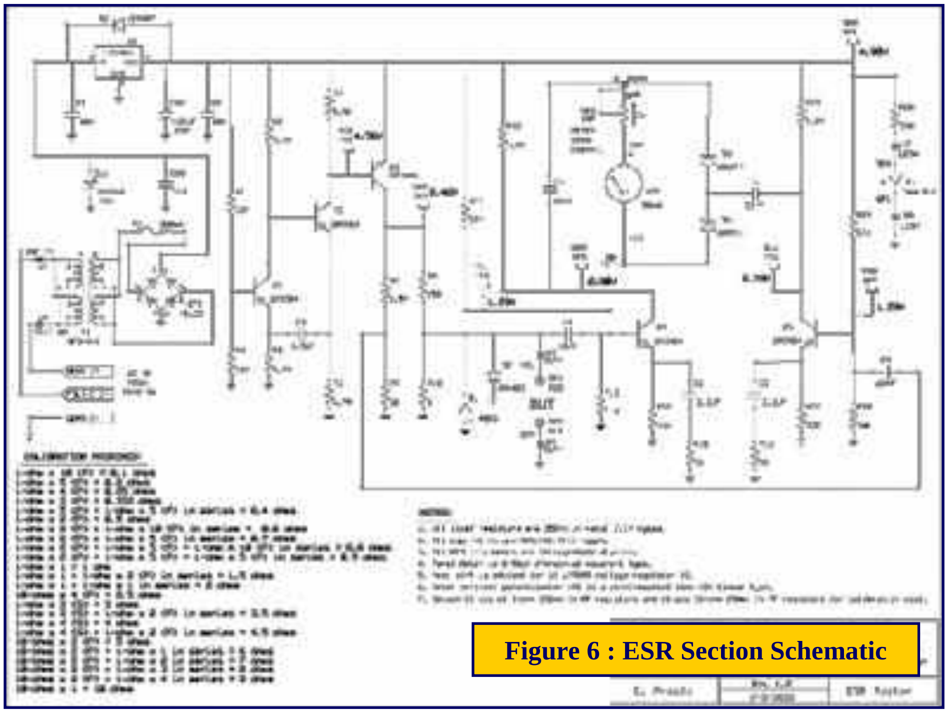


Figure 6 : ESR Section Schematic

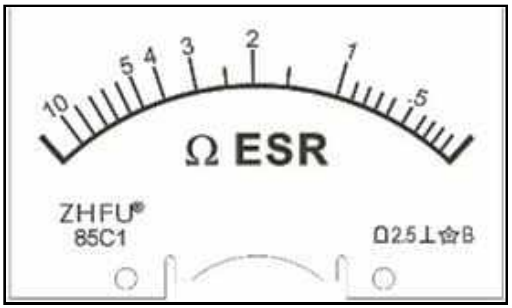


Figure 7 : Custom ESR Meter Face

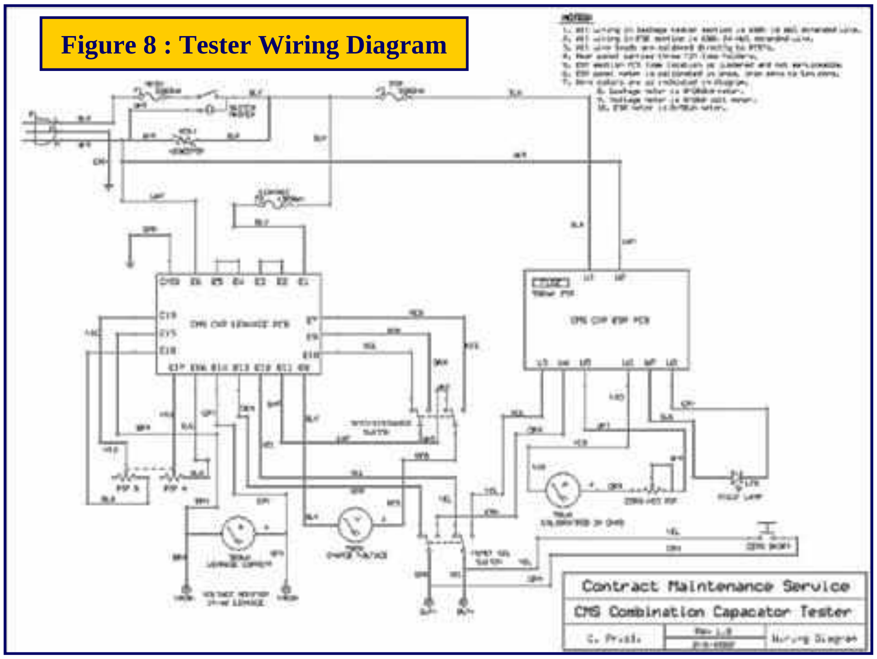
The three panel meters include a leakage current meter (0-500µA), a charge voltage (test voltage) meter (0-500V), and the ESR meter (0-50µA). The ESR meter has a custom meter face **(Figure 7)** that was created and installed into the meter, so that the meter is calibrated in ohms of ESR, from zero ohms to over ten ohms.

The front panel has an indicator LED that illuminates to show that the power is good on the ESR board. The front panel controls are as follows:

- Function switch - select between Leakage, ESR, and OFF;
- Leakage test activity switch - select between Test and Discharge;
- Charge voltage adjust - used to set the test voltage for the leakage test;
- ESR meter zero adjust - used to set the ESR meter to zero ohms;
- Zero short switch - used to set ESR meter circuit to its zero-adjust function; and
- Power switch - used to turn the tester on and off.

The leakage current meter output jacks are intended for connection to an accurate voltmeter. Due to the internal resistances in the circuit, an indicated reading of one volt on the voltmeter equates to one milliampere of leakage current. Because the onboard leakage meter is calibrated only to 500µA, the external meter connection allows accurate reading of leakages in excess of that limitation, as well as more accurate readings of leakages that fall within the onboard meter range. The front panel DUT binding posts are polarized as is necessary for the proper testing of polarized capacitors such as tantalum or electrolytic capacitors.

Figure 8 : Tester Wiring Diagram


Contract Maintenance Service
CMS Combination Capacitor Tester

AD2CS Capacitor Tester Build - Continued on page 31

AD2CS Capacitor Tester Build - Continued from page 30

All of the front panel controls and wiring are accessible via the removal of four flat-head machine screws from the underside of the tester, and then by tilting the upper half of the enclosure open **(Figure 9)**. Full access is then available to every part of the assembly, with the wire harnesses securely bundled for safety and security of the wiring. The PCB's are mounted to the floor of the enclosure; all other parts are mounted to the enclosure upper half. The enclosure itself sits on four rubber cushions that are installed into ¼" holes drilled in the floor of the enclosure.

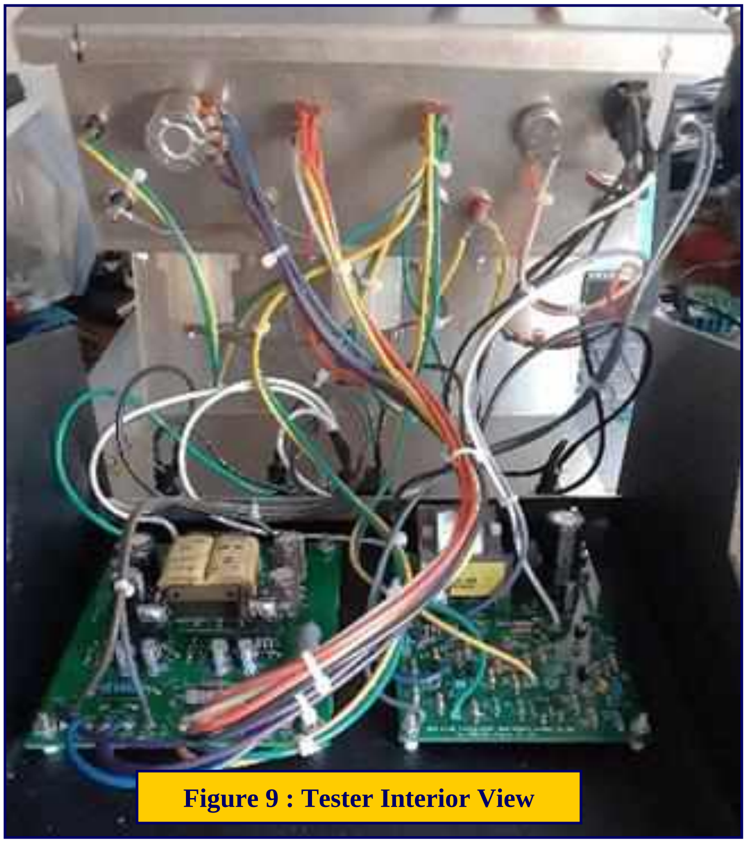


Figure 9 : Tester Interior View

Testing of a capacitor involves first discharging the capacitor, then connecting it to the DUT binding posts. Set the tester power switch to its ON position. Set the function switch to Leakage and set the leakage test activity switch to Test. Then, adjust the charge voltage adjust control clockwise until the charge voltage meter reads the rated working voltage of the capacitor. Read the leakage in µA directly off the leakage current meter. Return the charge voltage adjust control to its fully-counter-clockwise position, and then switch the leakage test activity switch to the Discharge position, which will cause the charge in the capacitor to be bled off. After about thirty seconds, switch the function switch to ESR. Press and hold the zero short switch and adjust the ESR meter zero adjust control to align the ESR meter pointer with the zero mark on the meter scale. Release the zero short switch and read the ESR in ohms directly from the ESR meter. Place the function switch into its OFF position to conclude the test.

An acceptable capacitor will have no or very minimal leakage and will exhibit extremely low ESR when tested in this manner. Electrolytic capacitors, especially those with high capacitance values, will take a longer time period for the leakage test, and may require raising the charge voltage in stages to avoid running the leakage current meter violently off-scale. This is because all electrolytic capacitors will exhibit heavy leakage until they are charged to a sufficient level for proper testing. The higher the capacitance value, the longer the test will take. Eventually, the meter will stabilize at some point. Ideally, the leakage will be at or below the datasheet maximum leakage limit when the charge voltage is at the capacitor's working voltage. Consistently high leakage, or the inability to reach the rated working voltage is indicative of excessive leakage and the capacitor should be scrapped.

Some datasheet leakage values are expressed as various arcane statements like…

- "After 1 minute's (for case size 10 × 12.5 or smaller) or 2 minutes' (for case size 10 × 16 or larger) application of rated voltage at 20°C, leakage current is not more than 0.002CV or 0.2 (µA) whichever is greater";
- "I = 0.003 CV + 4.0 (µA); C = rated capacitance (µF), V = rated voltage (VDC). Voltage applied for 5 minutes at +20°C"; or
- "I = 0.005 CV (µA); C = rated capacitance (µF), V = rated voltage (VDC)".

AD2CS Capacitor Tester Build - Continued on page 32

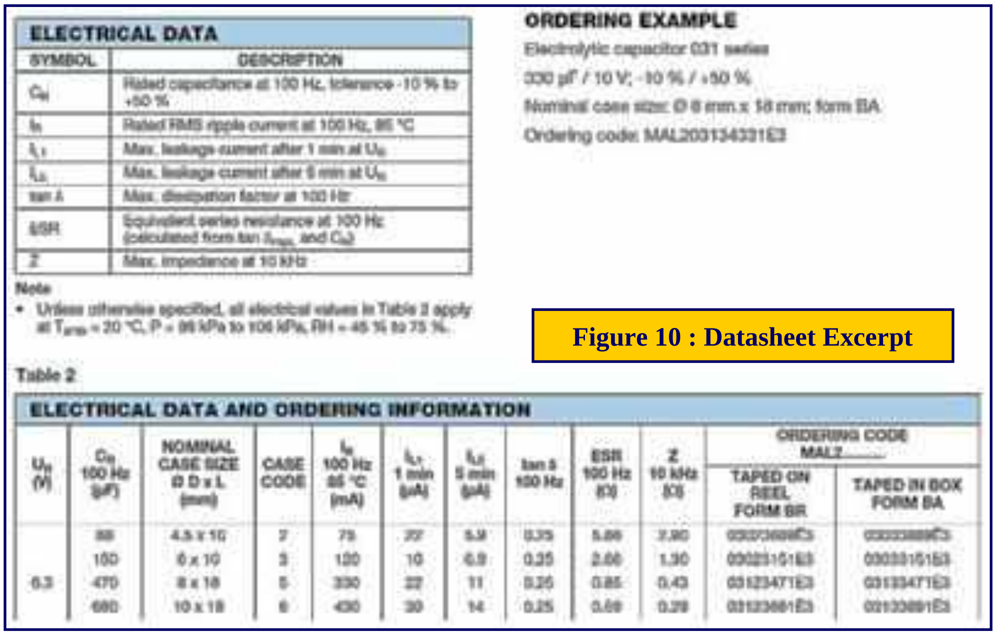
AD2CS Capacitor Tester Build - Continued from page 31

What does all of that mean? Let's take them one at a time…

1. Depending upon the capacitor case size, the maximum leakage current will be either 0.2µA or 0.002 x the working voltage (V) x the capacitance (C) in µF… after the working voltage has been applied for the specified time period for that particular case size. Suppose we had a 470µF capacitor rated at 25V in a 10mm x 12.5mm case. We would apply the test voltage of 25 volts for a period of one minute, at which time the maximum leakage should be 0.002 x 470 x 25, or 23.5µA, as the multiplied value is greater than the 2µA minimum, and the specification stipulated "whichever is greater".
2. In this case, the formula changes to 0.003 x C x V, with the voltage applied for five minutes. Using the same capacitor values, we would get a maximum leakage value of (0.003 x 470 x 25) + 4µA, or 35.25µA + 4µA, for a total of 39.25µA.
3. In the third example, we are given no time and no minimum or additive value. It is a straight arithmetic equation of 0.005 x C x V. Using the same capacitor again, we would now have 0.005 x 470 x 25, or 58.75µA as the maximum leakage value permitted.

What happens is that each manufacturer provides the leakage formulation that has been chosen for the particular capacitor at hand. From any one given manufacturer, the leakage value formula may change from one capacitor series to another. In fact, the second and third examples above are for two different capacitor families from the same manufacturer. Sometimes, a specified time is stated, and often, a given ambient or test temperature is also stated. Some manufacturers do not specify a maximum leakage value on their datasheets. In those cases, a judgment call must be made. As can be seen from the above examples, however, is that in no case was the leakage unreasonably high. All of the examples cited above were for electrolytic capacitors, as they are often the most difficult to test accurately. Low leakage is always to be desired.

I have tested some film capacitors that exhibited no leakage that could be seen on the meter in my tester. I have also tested some electrolytics that went off the leakage scale as soon as any charge voltage was applied, and I could never get the charge voltage to register more than about twenty or twenty-five volts, because it leaked down as quickly as it was applied. In a case like that, the capacitor is, for all intents and purposes, shorted and readily passing DC. That same capacitor, however, may well test fairly well as regards ESR, which (don't forget) is an AC test. It is for this reason that both tests are made, and that either test can condemn a capacitor to the scrap bin.



ELECTRICAL DATA

SYMBOL	DESCRIPTION
C_R	Rated capacitance at 100 Hz, tolerance -10 % to +50 %
I_R	Rated RMS ripple current at 100 Hz, 85 °C
I_{L1}	Max. leakage current after 1 min at U_R
I_{L5}	Max. leakage current after 5 min at U_R
tan δ	Max. dissipation factor at 100 Hz
ESR	Equivalent series resistance at 100 Hz (calculated from tan δ_{max} and C_R)
Z	Max. impedance at 10 kHz

Note

- Unless otherwise specified, all electrical values in Table 2 apply at T_{amb} = 20 °C, P = 86 kPa to 106 kPa, RH = 45 % to 75 %.

ORDERING EXAMPLE

Electrolytic capacitor 031 series

330 µF / 10 V; -10 % / +50 %

Nominal case size: Ø 8 mm x 18 mm; form BA

Ordering code: MAL203134331E3

Figure 10 : Datasheet Excerpt

Table 2

ELECTRICAL DATA AND ORDERING INFORMATION

U_R (V)	C_R 100 Hz (µF)	NOMINAL CASE SIZE Ø D x L (mm)	CASE CODE	I_R 100 Hz 85 °C (mA)	I_{L1} 1 min (µA)	I_{L5} 5 min (µA)	tan δ 100 Hz	ESR 100 Hz (Ω)	Z 10 kHz (Ω)	ORDERING CODE MAL2..... TAPED ON REEL FORM BR	ORDERING CODE MAL2..... TAPED IN BOX FORM BA
	68	4.5 x 10	2	75	22	5.9	0.35	5.86	2.90	[illegible]	[illegible]
	100	6 x 10	3	120	10	6.9	0.35	2.66	1.30	[illegible]	[illegible]
6.3	470	8 x 18	5	330	22	11	0.25	0.85	0.43	[illegible]	[illegible]
	680	10 x 18	6	430	30	14	0.25	0.59	0.29	[illegible]	[illegible]

Sometimes, a manufacturer will give a range of specifications for leakage and ESR for the capacitors covered by a datasheet, with individual values being shown for each capacitor listed. In these cases, there will sometimes even be multiple leakage specifications under different test standards, temperatures, or time periods. Read the datasheet carefully when determining the values to use as your guide. Consider the datasheet excerpt in **Figure 10**.

AD2CS Capacitor Tester Build - Continued on page 33

AD2CS Capacitor Tester Build - Continued from page 32

This datasheet provides individual leakage current values, two for each capacitor, and an ESR value for each capacitor listed.

Take for example the 470µF 6.3V capacitor in the excerpt. Its one-minute leakage current would be 22µA while its five-minute leakage current would be 11µA. The ESR value shown for this capacitor is 0.85Ω when tested at 100Hz. Why does the leakage current go down as the time period is extended? Because the capacitor has had longer to charge and so should be fully charged, and the dielectric should be fully formed. The initial leakage will be higher than the later leakage. This is a clear-cut example of what I meant when I said earlier that testing electrolytics can take some time, and that their leakage values will go down with time if the capacitor is viable. If the leakage value does not decrease, the capacitor is scrap.

I have been using this tester for the full year-and-a-half since I built it, to great success. It has proven to be a sturdy and reliable tester, even with its limitations. The limitations of which I speak are the maximum charge voltage of 500 volts, and the maximum onboard leakage current metering of 500µA. The leakage current limitation is easily overcome with an external voltmeter. The charge voltage limit, however, is a hard limit.

On the other hand, if a test must be made of a capacitor that has a working voltage in excess of 500 volts, a pretty safe conclusion can be drawn by the capacitor’s performance up to and at that 500-volt limit. If the leakage is high at lower voltages, it is a safe bet that it will also be high at the full working voltage. However, if the leakage is low at the 500-volt limit, it may increase as the working voltage goes up. What this leaves us with is a way to condemn those capacitors with high leakage, but a remaining question for those with low leakage evident at the 500-volt tester limit. Nothing is perfect. I had to draw the line somewhere in designing this unit, and I went with a charge voltage limit that I felt was reasonable at the time. Truth be told, I have only had one instance of not being able to accurately test a high-voltage capacitor. It happens rarely enough that I can live with it.

I am pleased with the appearance and performance of this unit. It looks like it was factory-made, and it performs like a much more expensive device. Best of all, it does exactly the tests that I needed done, and it does them reliably for the overwhelming majority of the capacitors that I have had reason to test.

Rowan University Rocket Launch

By Jon Pearce, WB2MNF

Below is a link to the official video from the rocket that the Rowan University students launched at the 2024 Spaceport America Cup in New Mexico on June 17 - 22, 2024. Among other functions it was carrying two radios with which GCARC Club members assisted. The first was the telemetry radio that operates on 70cm and sends data to a ground-based station, which needed an antenna designed for it. After a long Saturday AM Clubhouse discussion several months ago it was decided that the best design would be a vertical half-wave dipole that Chris AD2CS constructed. In addition, Club members assembled a 5.8 GHz video transmitter to be installed in the rocket along with a ground-based receiver that would output HDMI to event officials.

The telemetry unit apparently worked flawlessly; it's not clear if the video unit was successful. But the YouTube video linked below shows most of the flight, including the deployment of the drogue parachutes (the mains also opened successfully). The Rowan team has some additional video that they'll show when they present at one of our monthly meetings.

Congrats to that team and thanks for letting us join in in the project.

https://youtube.com/clip/UgkxLr2G68K7cCOu4ZYE8g_gVj1kaFfedyUX?si=oaqsBtglppPp3bRk

20 Meter Digital Field Day Station

By Jim Wright, N2GXJ

Thanks to everyone who came by for a bit of socializing and operating at the 20 Meter Digital Station at Field Day this year. It was a very popular station! Many of those who helped at the 20 Meter station also helped at other stations. That's great! Thank you so much! A huge recognition of thanks in general to everyone who participated in field day this year, given the hot weather conditions. Special thanks to those who helped at the 20 Meter Digital Station, including :

- **Jim Wright, N2GXJ**
- **Earl Moore, KC2NCH**
- **Rolf Wurmbach, KD2VQG**
- **Chuck Lanard, KD2EIB**
- **Marc Federici, WM2Y**
- **Mark Gottlieb, KK2L**
- **Alex Duboski, KB2YEF**
- **Stan Slachetka, WA2JRZ**
- **Mike Resnick, N2WOQ**
- **Rose Williams**
- **Kevin Frank, recent college graduate**

And to the many others who stopped by for a visit and/or to give digital a hands-on try. Without your help, we would not have been able to achieve the positive results we did. Thank you!

Amateur Radio Emergency Services - July 2024
Resources - News - Updates

By Bob Keogh, KD2NEC - kd2nec@qsl.net
Gloucester County Emergency Coordinator

Emergency Communications Trailer Update Project
Version 4 - June 21, 2024

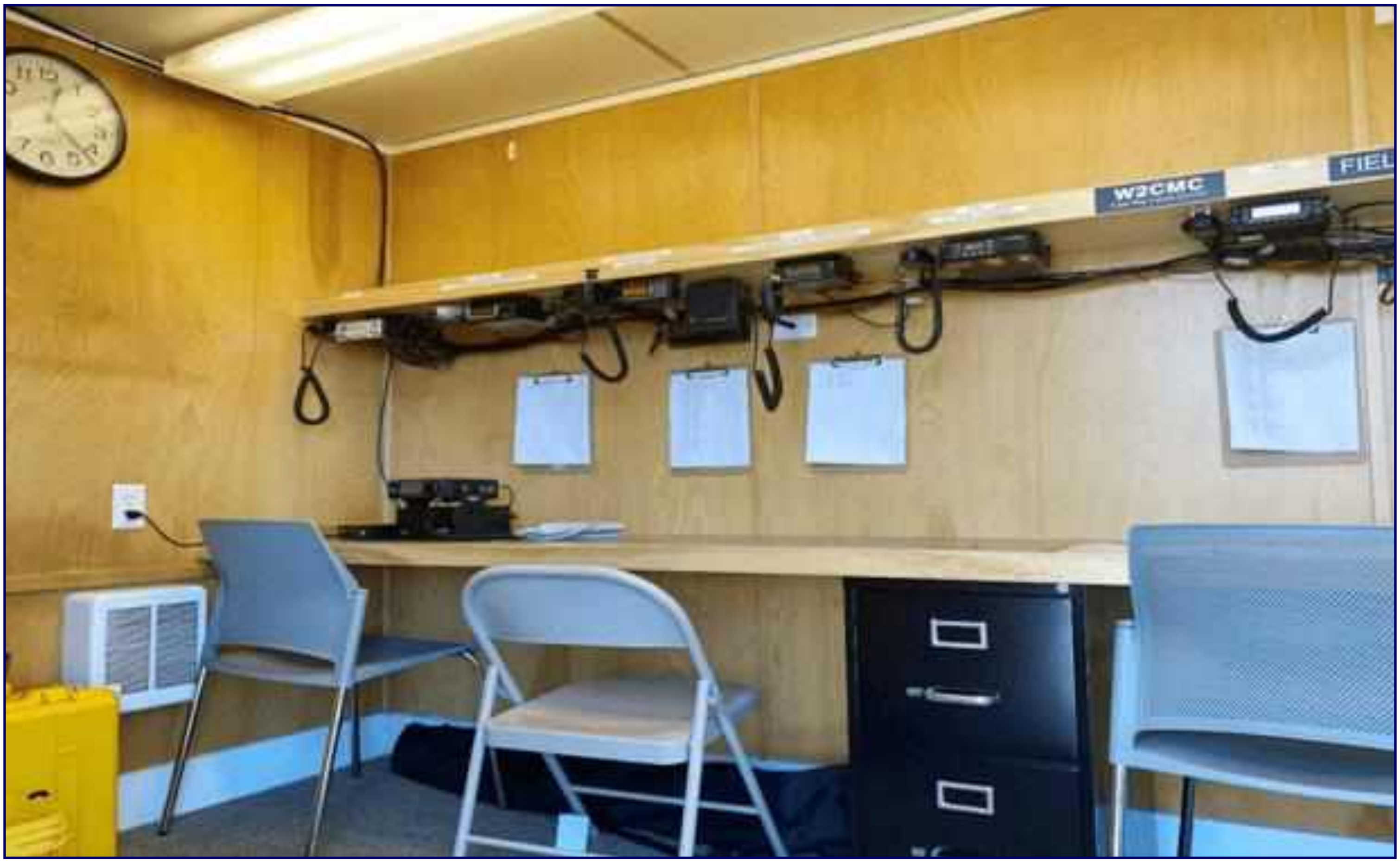
Building an Emergency Communications (EmComm) trailer is a commendable endeavor! These trailers are essential for providing communication support during emergencies, disasters, or community events. Here are some steps and considerations to guide us in creating our EmComm trailer :

1. **Purpose and Planning :**
    - The primary purpose is to serve as a mobile ham radio station.
    - The equipment we want to include are radios, antennas, power sources, etc.
2. **Interior Layout :**
    - Consider workstations, storage, and accessibility.
    - Install shelves, racks, and secure mounting points for radios and other gear.
3. **Power and Electrical System :**
    - Install a reliable electrical system. Including batteries, solar panels, or a generator.
    - Plan for both AC and DC power outlets.
    - Consider surge protection and grounding.
4. **Antennas and Mast :**
    - Mount antennas on the exterior of the trailer. Ensure they can be raised and lowered easily.
    - Include a telescoping mast for additional height when needed.
5. **Climate Control :**
    - Insulate the trailer to regulate temperature.
    - Install ventilation and heating/cooling systems.
6. **Communication Equipment :**
    - Install ham radios and computers for logging and WinLink Data Communications
7. **Storage and Organization :**
    - Use labeled bins and containers for cables, tools, spare parts, and emergency supplies,
    - Secure everything to prevent damage during transit.
8. **Exterior Features :**
    - Add reflective decals, emergency lighting, and safety equipment.
    - Include a weatherproof exterior work area.
9. **Documentation and Maintenance :**
    - Keep detailed records of modifications, repairs, and maintenance.
    - Regularly inspect and maintain the trailer.
10. **Schedule :**
    - This project will be staged depending on funds. We hope to have functioning trailer with at least one HF rig and one VHF rig, by Field Day
    - More complex stages will be implemented as funding is available.

SNJ ARES Update - Continued on page 36

SNJ ARES Update - Continued from page 35

The picture below is an Emergency Communications Vehicle that was built last year by the Cape May RACES Program. It could be the model that we use for our EmComm Trailer.



1. Notice the workstation table. It's attached to the wall on two sides, with support from the file cabinet, that could be used for storing parts, tools, and equipment manuals.
2. The shelf above the workstation table is attached to the wall on two sides but it doesn't seem to have any support in the middle. This may need more support.
3. The radios are attached to the bottom of the shelf, but whatever is placed on the shelf top must be secured and this shelf may need more support. The wiring harness that feeds power and signal to the radios will add weight, but the weight of the harness may be placed on the wall instead of the shelf.
4. Notice the heater and wall clock for synchronizing time stamps on messages.

Planning And Design Discussion Questions

1. Do we want to remove the interior paneling, to install wiring and insulation, then reinstall the paneling?
2. Do we want to install a roof vent with fan and eventually replace the vent with HVAC?
3. Consider that we could have radio operators working around the clock, for several days and in all types of weather.
4. What type of radios do we need and where will they be placed in the trailer?
5. Where and how do we install antennas, masts, and brackets on the exterior of the trailer?
6. Where and how do we drill holes in the trailer for feed lines and electrical wiring?

SNJ ARES Update - Continued on page 37

SNJ ARES Update - Continued from page 36

7. Assuming we will be operating on battery power, what type of batteries do we need and how will they be recharged, generator or solar?
8. When AC power is available and close to the trailer, what will the power system look like?
9. What else needs to be discussed?

Potential Equipment, Material List, and Estimate Costs

This list is just an estimate of the equipment and materials we will need to purchase for this project. The actual list will be determined during the planning and design phases.

Radios :

• ICOM IC-7300 HF+50	$1,199
• ICOM IC-2730 VHF/UHF	$290
• Alinco DR-MD520T Tri-Band	$399
Sub-Total	$1,888

Power System :

• (2) Bioenno BLF-1215A Battery	$300.00
• (1) West Mountain Radio CBA Charge Controller	$100.00
• Wiring, Connectors, Grounding, Switching?	$100.00
Sub-Total	$500.00

Antennas :

• (2) HF, NVIS HWEF (CHA EMCOMM III)	$195.00
• (3) VHF/UHF, Omni-Directional or Beam?	$300.00
• (2) Telescopic masts for HWEF and VHF	$200.00
• (1) Roof racks for VHF/UHF Antennas	$200.00
• (1) Grounding	$200.00
• (3) Coax feed lines	$200.00
Sub-Total	$1,295.00

Station table, Shelving, Storage, Chairs, Vent, etc.

• Workstation table 2’ X 10”	$100
• Radio shelf 1’ x 10’	$100
• Shelf supports and trim	$100
• Hardware	$100
• (2) Two drawer file cabinets	$100
• AC/DC wiring	$100
• Roof vent with fan	$165
• (4) Folding chairs (1 or 2) could be used outside)	$200
• What else???	$????
Sub-Total	$965

SNJ ARES Update - Continued on page 38

SNJ ARES Update - Continued from page 37

Sub-Totals	**Radios**	**$2,048.00**
Sub-Totals	**Power System**	**$500.00**
Sub-Totals	**Antennas**	**$1,295.00**
Sub-Totals	**Table, Shelving, Storage, Chairs, Vent, etc.**	**$965.00**
Total		**$4,808.00**

This estimated totals does not include an HVAC system or other creature comforts.

We are still looking for a few more Club members to participate in any of the phases of this project. If you are interested, please reach out to me.

The trailer is currently located at the Washington Township Fire Department at 213 East Holly Avenue, Sewell, NJ. However, we will be tow the trailer to the W2MMD Clubhouse, to take advantage of necessary resources located at the Club and not to get in the way of the Fire Department. We will schedule certain tasks around the availability of certain subject matter experts.

ARRL Membership Commission Program

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

As some of you may already know, the ARRL has upped the ante on one of their long-standing programs, the Affiliated Club Membership Commission program. What this means to us is that we as an Affiliated Club have access to an improved revenue stream that costs us nothing but a little bit of paperwork and cooperation. The Membership Committee will handle the paperwork, but we do need the cooperation of all Club members to make this a reality.

Here is how it works. The ARRL will pay a commission to the GCARC for every new ARRL membership and for every ARRL membership renewal that is processed through the Membership Commission program. The payments are at a rate of **$5.00** for each renewal and **$20.00** for each new membership application submitted. This could equate to a sizable income for our Club if everyone cooperates.

All that you have to, as an existing ARRL member, is to renew your League membership via a renewal form that the GCARC Membership Committee will provide to you, completing the form and returning the form with the renewal payment to our Membership Committee. We will then bundle all of the applications received in a given month and submit them to the ARRL together with a special cover form competed by the Membership Committee. The ARRL will then send a check for the agreed commission amount to our Club. Renewals can be submitted as much as sixty days before expiration. If you are unsure of your expiration date, drop me an email and I can tell you when your ARRL membership expires.

As a tentative new member… and 33% of our membership does not currently belong to the ARRL… the process is similar. Our Membership Committee will provide you with a League membership application, which you will then complete and return to us together with your payment. We will then submit those applications together with the required cover form to the ARRL, who will again send a check for the commission to our Club.

If you are not currently an ARRL member, I strongly recommend that you join the League. The ARRL is our - Amateur Radio's - ONLY voice in Washington when it comes to lobbying for the hobby and protection of Amateur Radio against encroachment by other interests. We NEED to support the ARRL in order to protect our chosen hobby, and they are quite effective and successful in their efforts to protect and promote Amateur Radio.

Many of you will be renewing your ARRL memberships anyway, so why not do it through this program and let GCARC benefit a little bit from your renewal?

Regional Skywarn Websites For On-Line And In-Person Training Classes

Philadelphia/Mt Holly Skywarn : www.weather.gov/phi/skywarn
State College, PA Skywarn : www.weather.gov/ctp/skywarn
Pittsburgh, PA Skywarn : www.weather.gov/pbz/skywarn

Gloucester County Amateur Radio Club Elmers

We are still looking for some more Club Elmers. If you would to add your name to the Elmer's List, send your specialty to w2mmdgcarc@gmail.com. Here is what we have so far :

- **Tony Starr, K3TS : Antenna Construction; Contesting; CW Help and Training**
- **Ken Bozarth, KN2U : Antennas**
- **Jeff Welsh, KD2AZI : Boat Anchor Repair & Operation; Raspberry Pi; Arduino; Python; POTA; Mobile Installation & Operating**
- **Karl Frank, W2KBF : Digital Messaging (FLDIGI, WinLink)**
- **Lenny Rust, W2LJR : DMR Radios & Programming**
- **Ron Block, NR2B : Lightning protection & grounding**
- **Chris Prioli, AD2CS : Kit Building; Antenna Building; Radio Programming; PC and Electronic Troubleshooting; ham radio licensing & studying**
- **John Zaruba Jr, K2ZA : Yaesu System Fusion Radio Programming, POTA, SOTA**
- **Jerry Barnish, K2EAB : Radio Astronomy**
- **Mike Thompson, KG4JYA : Radio Astronomy; VARA (HF and FM); WinLink**
- **Steve Farney, W2SEF : WSJT-X; FT-8; LoTW; TQSL; Grid Square**
- **Carl Wittig, N2CRW : Audacity® Audio Editor**
- **Gary Mirkin, WA3SVW : FLDIGI; MMSSTV**
- **Jon Pearce, WB2MNF : Satellite Communications**
- **Frank Romeo, N3PUU : Toilet Installer; Jack-Of-All Trades - Master Of None**
- **John Hill, W2HUV : Local & Remote W2MMD HF Station Operation, Training & Support**
- **Dave Sheppard, W2PAX : National Traffic System**

Full Buck Moon : July 21, 2024 @ 0619 Hours

At this time, the antlers of bucks (male deer) are in full growth mode. This Native American name was noted by Captain Jonathan Carver during his travels in the 1760s. Other animal-related names include Feather Moulting Moon (Cree) and Salmon Moon, a Tlingit term indicating when fish returned to the area and were harvested. As far as the plant world, there was Berry Moon (Anishinaabe), Moon When the Chokecherries are Ripe (Dakota), Month of the Ripe Corn Moon (Cherokee), and Raspberry Moon (Algonquin, Ojibwe), among others. Thunder Moon (Western Abenaki) and Halfway Summer Moon (Anishinaabe) are other variants.

Old Farmer's Almanac - www.almanac.com

ARRL Volunteers Obtain Ham Exemption to Pennsylvania Hands Free Law

ARRL volunteers in Pennsylvania have successfully protected the legal right to use amateur radio while operating mobile within the state. A hands free distracted driving bill had worked its way through the legislature over the past several years, and ARRL Atlantic Division Director Bob Famiglio, K3RF, successfully advocated for an exemption for licensed radio amateurs. "The bill survived until just before the latest vote, which stripped out our exemption but left in exemptions for commercial drivers, including truck drivers, bus drivers, and public transportation [drivers]," he wrote in a message to ARRL members in Pennsylvania.

In April, the exemption was stripped from the bill, sending Pennsylvania hams into a state of worry. ARRL members in the state rallied, contacting their state legislators to explain the benefit that licensed operators provide to the state. The bill also was going to remove the ability for first responders, such as volunteer firefighters, to use radios in their personally owned vehicles. "Hundreds of emails then went out to legislators and such and back to me. We also helped our volunteer emergency responders who were in the same boat as us with radio use from their personal cars. Many members are also emergency responders as well, and they picked up on this too," said Famiglio.

This week, the Pennsylvania House of Representatives voted in favor of accepting the bill with the exemption. The senate passed it last summer. The bill is now on its way to Governor Josh Shapiro's desk, where he is expected to sign it. Mobile use of amateur radio will continue in Pennsylvania, thanks to ARRL advocacy and government relations carried out by member-volunteers.

Article Credit : The ARRL Letter for May 9, 2024 - www.arrl.org

Volunteer Monitor Program Report - April 2024

The Volunteer Monitor (VM) Program is a joint initiative between ARRL and the FCC to enhance compliance in the Amateur Radio Service. This is the April 2024 activity report of the VM Program.

- Two operators in West Virginia and two operators in North Carolina received notices concerning wideband operation of 6 to 7 kHz wide on 75 and 40 meters, contrary to FCC rules.
- Operators in Florida, Ohio, Kentucky, Virginia, and Georgia received notices for wideband operation of 6 to 8 kHz wide on 40 meters. Commission Rule 97.307(a) provides that “no amateur shall occupy more bandwidth than necessary for the information rate and emission type being transmitted, in accordance with good amateur practice."
- An electric cooperative power company in Arkansas received an advisory notice due to unlicensed operation on 145.500 MHz by its fiber optics contractor working in Sharp, Izard, and Fulton counties.
- Technician-class operators in Maryland and California received advisory notices for operating FT8 on 20 and 40 meters. Technicians have no 20-meter operating privileges and may operate only CW on 40 meters.
- An operator in Massachusetts received an advisory notice for failure to identify during 75-meter transmissions of more than 30 minutes. Section 97.119(a) requires amateur stations to transmit the assigned call sign at the end of each communication and at least every 10 minutes during a communication.
- During April there was one referral from the VM Program to the FCC, at the request of the FCC. regarding repeater interference findings. A VM Program presentation was given to the Mt. Airy VHF Radio Club in Warminster, Pennsylvania.
- The totals for March 2024 monitoring were 1,166 hours on HF frequencies, and 1,046 hours on VHF frequencies and above, for a total of 2,212 hours.

Thanks to Volunteer Monitor Program Administrator Riley Hollingsworth, K4ZDH.

North American QSO Party, CW 2024
January 14, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 9.5
Location : USA

Summary :

Band	QSOs	Mults
160 :	43	31
80 :	261	61
40 :	86	62
20 :	142	63
15 :	76	37
10 :	28	20
Total :	636	274

Total Score : 174,264

Club : Frankford Radio Club **04**

Comments :

Rig : Elecraft K3
Antennas :
160m Inverted L over 100ft tree
80m Dipole @ 95ft
40m Dipole @ 90ft
10/15/20m Force 12 C3S @ 52ft on AB-577 military mast

Op time 9.5 hrs

Wow great fun, great condx. Some great runs, especially on 80m. 160 seemed very active this time, got a decent number of mults there. My best score for CW NAQP so far.

CU in NAQP SSB.
Great to work so many friends!
73 Darrel AB2E

Contest : NAQPCW

Band	QSOs	Pts	Sec	Mt2	Pt/Q
1.8	43	43	29	2	1.0
3.5	261	261	56	5	1.0
7	86	86	57	5	1.0
14	142	142	59	4	1.0
21	76	76	33	4	1.0
28	28	28	16	4	1.0
Total	636	636	250	24	1.0

Score : 174,264
1 Mult = 2.3 Q's

North American QSO Party, CW 2024
January 14, 2024

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 6:55
Location : USA

Summary :

Band	QSOs	Mults
160 :	26	21
80 :	228	42
40 :	116	45
20 :	128	47
Total :	498	155

Total Score : 77,190

05

Club : Frankford Radio Club

Team : FRC Team Omega

Comments :

Started really late because realtors were showing our house all day and I could not get into the shack! By the time I got rid of them, we were more than four hours in to the contest! Then I had to take calls and messages while I was calling CQ! What we won't do for more antenna space... Hopefully next time will be more relaxed and I can work the full ten hours. And maybe a bigger tower too. I did the best that I could anyway. Many thanks to all who called in. 73 for now.

de K3TS

K1USN Slow Speed Test 2024
January 26, 2024

Call : W2TEF
Operator (s) : W2TEF
Station : W2TEF

Class : Academy Single Op LP
QTH : Mullica Hill, NJ
Operating Time (hrs) : 1

Summary :

Band	QSOs	Mults
40 :	6	4
20 :	3	3
Total :	9	7

Total Score : 63 **15**

North American QSO Party, CW 2024
January 14, 2024

Call : WB2PJH
Operator (s) : WB2PJH
Station : WB2PJH

Class : Single Op Assisted LP
QTH :
Operating Time (hrs) : 8
Location : USA

Summary :

Band	QSOs	Mults
80 :	63	31
40 :	119	46
20 :	106	43
15 :	81	31
Total :	369	151

Total Score : 55,719

Club : Frankford Radio Club **06**

Team : FRC Team Beta

K1USN Slow Speed Test 2024
January 8, 2024

Call : K2ZA
Operator (s) : K2ZA
Station : K2ZA

Class : Single Op QRP
QTH :
Operating Time (hrs) : 1
Location : USA

Summary :

Band	QSOs	Mults
40 :	5	5
20 :	4	
Total :	9	9

Total Score : 81

Club : Gloucester County Amateur Radio Club **03**

Comments :
First time doing this contest, much more difficult than I thought. My head copy fell apart on the first QSO, struggled the rest of the hour. I'll be back again! 73 de John K2ZA

CQ 160 Meter Contest, CW 2024
January 26, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted HP
QTH : SNJ
Operating Time (hrs) : 8
Location : USA

Summary :
Total : QSOs : 466 State/Prov : 50 Countries : 25
Total Score : 95,250

Club : Frankford Radio Club **12**

Comments :
Rig : FTDX-9000D/OM Power 2000A+
Antenna : 160m inverted L over 100ft tree. RX- HiZ4 array
Op time : 8hrs

Generally good condx Fri evening, that's when I worked all the EU/DX. Operated about 4hrs. Missed ND, SD, WY, NV, ID & some of the VE provinces. Snagged 25 countries total, all but 2 the first night. Sat night condx were horrible here, no EU heard, managed to work V31XX who showed up about midnight. CU in the SSB CQ 160 in a few weeks.

73 Darrell AB2E

Hungarian DX Contest 2024
January 20, 2024

Call : WB2PJH
Operator (s) : WB2PJH
Station : WB2PJH

Class : SOABCW LP
QTH :
Operating Time (hrs) : 6
Location : USA

Summary :

Band	CW Qs	SSB Qs	Mults
40 :	31	0	18
20 :	30	0	17
Total :	61	0	35

Total Score : 12,320

Club : Frankford Radio Club **07**

Contest : CQ160CW

Band	QSOs	Pts	StP	DXC	Pt/Q
1.8	466	1,270	50	25	2.7
Total	466	1,270	50	25	2.7

Score : 95,250
1 Mult = 6.2 Q's

North American QSO Party, SSB 2024
January 21, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 3
Location : USA

Summary :

Band	QSOs	Mults
160 :	9	9
80 :	30	27
40 :	30	29
20 :	17	17
15 :	32	27
10 :	34	26
Total :	152	135

Total Score : 20,520

Club : Frankford Radio Club **08**

Team : FRC Team 90

Comments :
Rig : Elecraft K3

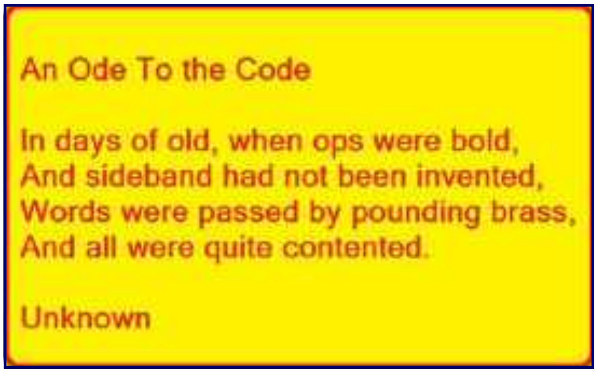
Not much time to operate, had to clear snow to get out of the driveway. Had other things going on too. Only 3hrs operating time.

73 Darrell AB2E

Contest : NAQPSSB

Band	QSOs	Pts	Sec	Mt2	Pt/Q
1.8	9	9	9	0	1.0
3.5	30	30	24	3	1.0
7	30	30	26	3	1.0
14	17	17	15	2	1.0
21	32	32	22	5	1.0
28	34	34	20	6	1.0
Total	152	152	116	19	1.0

Score : 20,520



An Ode To the Code

In days of old, when ops were bold,
And sideband had not been invented,
Words were passed by pounding brass,
And all were quite contented.

Unknown

North American QSO Party, SSB 2024
January 21, 2024

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op Assisted HP
QTH : SNJ
Operating Time (hrs) : 5:01
Location : USA

Summary :

Band	QSOs	Mults
160 :	4	4
80 :	88	36
40 :	32	29
20 :	160	42
15 :	26	21
10 :	20	15
Total :	330	147

Total Score : 48,510

Club : Frankford Radio Club **09**

Team : FRC Team 270

Comments :
Sorry, 5 hours was all I could do. Every year in January, I get a bad cold, either for NAQP CW or SSB. This year it was SSB, and I kept losing my voice and coughing. It is what it is. CW is much better for operating while sick! Anyway, this was the contest that got me back into contesting in January of 2016, and is still a favorite of mine. This was also the last NAQP I will operate from this QTH, as we are moving out of here by April 4th, so thanks for all the great NAQP QSO's! Hopefully the next QTH will be as productive (and have a lower #&*%! noise level!).

73 for now, de K3TS

K1USN Slow Speed Test 2024
January 29, 2024

Call : W2TEF
Operator (s) : W2TEF
Station : W2TEF

Class : Academy Single Op LP
QTH : Mullica Hill, NJ
Operating Time (hrs) : 1

Summary :

Band	QSOs	Mults
40 :	2	1
20 :	9	9
Total :	11	10

Total Score : 110

16

Gloucester County Amateur Radio Club
General Membership Meeting Minutes
Wednesday, June 5, 2024

Meeting opened at 1900 Hours by President Jon Pearce, WB2MNF with the Pledge of Allegiance to the Flag

Attendance :

- In Person : 37
- Via Zoom : 21

Visitors :

- Spencer Webb, W2SW
- Jillian Guenther

New Members :

- Diane Amico, Vineland
- Kerri Lynn Caguiat, KE2DKD, Sicklerville
- William DeCuzzi, KD2KZW, Bellmawr (Returning Member)
- Anish James, Mount Laurel
- Phillip Lizzi, AD2HU, Deptford
- Angela Metzger, Vineland
- Linda Murphy, KD2RVH, Bellmawr (Returning Member)
- Rosemarie Newman, Millville
- Ronald Newman, Millville
- Thomas Schmitt, Franklinville
- Jacob Scholz, KC2QYT, Williamstown
- Rose Williams, Audubon

Announcements :

- Congratulations to **Holden Correa-Fisher KD2JPV** and **Beth Kraus KE2BPE** on their graduation from Rowan University.

Upcoming Events :

- Tech Saturday 6/8 @ 9AM Antenna Build Session
- ARRL VHF Contest 6/8-6/9
- Zoom TechNet 6/10 @ 7:30 PM “Balloon Tracking”
- Antenna Build Session 6/15 @ 9AM
- Zoom TechNet 6/17 @ 7:30 PM “WSJT-X”
- GCARC BoD Meeting 6/19 @ 7PM
- ARRL Field Day 6/22-23
- Dinner at the Clubhouse 6/26 @ 6PM
- “I Got My License - Now What?” Discussion meeting for new hams. Tentative date 7/1 @ 6 PM at the Clubhouse.

June 2024 General Membership Meeting Minutes - Continued on page 46

June 2024 General Membership Meeting Minutes - Continued from page 45

Treasurer's Report : Year to Date Income and Expenses

Motion to approve the Treasurer's report passed by voice vote of members present.

Member Activities :

- **Frank Romeo, N3PUU** is working on a 1296 MHz Pluto SDR
- **Rolf Wurmbach, KD2VQG** has assembled a new POTA station around a Xiegu G90 HF radio.

Clubhouse Report :

- VHF tower base repairs are on going, construction is weather dependent.

DX and Contests : No Report

Field Day : Zoom meeting to coordinate activities with band chairmen on 6/6 @ 7:30PM.

Technical Committee :

- Discussion of Balloon Launch preparations. Launch window is early July. Discussion of procedure for making QSOs through the GreenCube satellite.

Education Committee :

- **Chris Prioli, AD2CS** reported on progress of license preparation classes. He also discussed the upcoming Advanced Surface Mount soldering class on July 8, 2024.

Public Service :

- **Karl Frank, W2KBF** discussed public service dimensions of Field Day. He also reported on the attendance of the American Red Cross communications trailer, Winlink Station, and the need for coaches for the Get On The Air Station (GOTA).

GCARC Foundation :

- **John O'Connell, K2QA** reported the Foundation BoD approved $1000 in funding to support Club Balloon Launch so the Club can support the Upper Deerfield School Balloon launch.
- Foundation Income $1000.59, expenses $89.89

Old Business : None

New Business : None

Closing Remarks : None

Presentation : *"Irreverent Antennas"* - Spencer Webb, W2SW

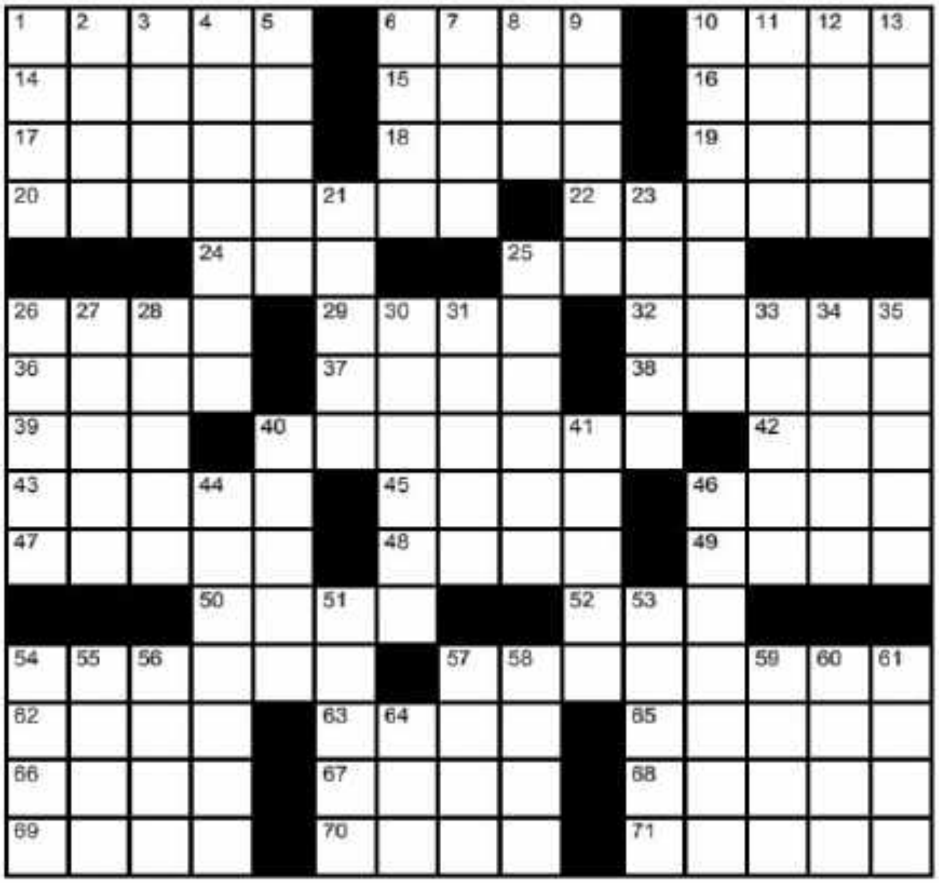
Meeting adjourned @ 1952 Hours.

Respectfully submitted,
John Zaruba Jr, K2ZA
Recording Secretary

by Chris Codella, W2PA

6/22/2009

Interface



Crossword Puzzle courtesy of https://www.w2pa.com/Home/articles/crossword-puzzles

Across

1. Radio room

6. Analog tuning device

10. F-land without

14. Simple /MM vehicle

15. It follows that

16. SK item

17. Henry amp last name

18. "If it ___ broke ..."

19. This

20. They help you read 6-across and other 67-acrosses

22. Rig or antenna maintenance

24. Sometime AMSAT launcher

25. Related degree hams sometimes have

26. Campus org, informally

29. Not fooled by

32. Prepare, as tea

36. Chips that store

37. Dahdit dahdit

38. JA port

39. Hall-of-Famer Mel

40. Comebacks

42. Ham, to Noah

43. Weeper of myth

45. Once again

46. Go for the gold

47. Inductor shape, sometimes

48. Overhaul

49. Figure skater's jump

50. Whig's rival

52. Good thing to break on the links

54. Art's transceiver

57. Rotary, slide, and others

62. Bigger than a pico

63. Speaker part

65. Stockpile

66. Shakespeare's river

67. Interface device manipulated by digits

68. Where hams want to be

69. Livens (up)

70. Puts in stitches

71. FD, repeater, and others

Down

1. Atlantic fish

2. Innocent antenna configuration?

3. Prefix with VOX

4. Brass instruments not meant for, but useable for, sending CW

5. 19th century G poet

6. DR on CW

7. Pupil's place

8. "What?", on 7.005, say

9. Expensive sports car

10. Where plugs go

11. Old alpha alternative, in the military, say

12. ZK2 place

13. Footfall

21. Spanish prefix

23. XE units

25. Docked /MM

26. With 35-down, it's where 6, 20, 57, 67-across, 10, and 44-down are located

27. Part of SWR

28. Digital mode

30. ___ public

31. Congo prefix

33. Balearic prefix

34. Armenian prefix

35. See 26-down

40. Plant again

41. A full circle

44. Interface devices manipulated by a digit

46. Radio pioneer

51. Crystals, familiarly

53. SV/A Mount

54. Hiker's sack

55. Its length determines frequency

56. KL followers

57. VE8 forecast

58. Networks

59. One method of ant. elev. measurement

60. Lake for which a bug fist is named

61. Flex, SoftRock and others

64. QSO at start of SS

Answers on Page 55

Gloucester County Amateur Radio Club
Board of Directors Meeting Minutes
Wednesday, June 19, 2024

Meeting opened @ 1900 Hours by Vice President Ron Block, NR2B

Attendance :

- **President** Jon Pearce WB2MNF :
- **Vice President** Ron Block NR2B : **Present**
- **Treasurer** John O’Connell K2QA : **Present**
- **Recording Secretary** John Zaruba Jr K2ZA : **Present**
- **Corresponding Secretary** Mike Resnick N2WOQ : **Present**
- **Director (2022-2024)** Jeffrey Garth WB2ZBN : **Present**
- **Director (2022-2024)** Frank Romeo N3PUU : **Present**
- **Director (2023-2025)** Chris Prioli AD2CS : **Present**
- **Director (2023-2025)** James Wright N2GXJ : **Present**
- **Director (2024-2026)** Al Arrison KB2AYU : **Present**
- **Director (2024-2026)** Bill Price NJ2S : **Present**
- **Trustee (2021-2024)** Carl Wittig N2CRW
- **Trustee (2022-2025)** Charles Lanard KD2EIB
- **Trustee (2023-2026)** Sheldon Parker K2MEN
- **Trustee (2024-2027)** Len Rust W2LJR
- **Member** Bruce Canino KD2LBU : **Present**
- **Member** Karl Frank W2KBF **: Present**

New Member Applications :

- **Daniel Caguiat, KE2DPR, General Class from Sicklerville, NJ**
- **Chris Ciraula, KD2SBR, (Returning Member), Technician Class from Elmer, NJ**
- **Harry Eshleman, KE2DQA, Technician Class from Monroeville, NJ**
- **Jacques Latoison, KC3VYU, (Returning Member), General Class from Chester, PA**
- **Sheree Revilla, Associate Member, (Added to roster in May, but not voted on until June)**

Member Upgrades :

- **Diane Amico, KE2DPT, New Technician Class**
- **Mike Angelastro, KE2DPQ, New Technician Class**
- **Kerri Caguiat, KE2DKD, Passed Technician and General Class exams**
- **Ron Newman, KE2DPO, New Technician Class**
- **Rosemarie Newman, KE2DPP, New Technician Class**

Treasurer’s Report :

- YTD Income : $13,048.32
- YTD Expenses : $4,580.35
- Net : $8,467.97

Detailed financial statements are available for member review upon request

June 2024 Board of Directors Meeting Minutes - Continued on page 49

June 2024 Board of Directors Meeting Minutes - Continued from page 48

Clubhouse Report :

- Field has been mowed in preparation for Field Day
- Repairs on VHF tower base have started. Scheduling is weather dependent

Technical Committee :

- Discussion of balloon launch logistics

Repeaters : No Report

Programs and Activities Committee :

- July GM meeting program “Pizza Night”
- Discussion of Field Day logistics

Education Committee :

- License classes are complete for this session. Exams will be June 24th and 25th
- Advanced Surface Mount Soldering class scheduled for July 8, 2024
- “You’ve got your license, now what” session moved to July 15, 2024

Hamfest :

- Discussion of Hamfest programs

GCARC Foundation :

- PO Box bill has been paid.

Health & Welfare :

- **John Hill W2HUV** on the mend.
- Get well soon to **Mario Tagliaferri W3CGS**

Old Business :

- Discussion 4H Fair internet access.
- Red Cross communications trailer coming out to Field Day
- Discussion of candidates for Volunteer Recognition Award

New Business :

- Discussion of internal outreach to Club members about under utilized Clubhouse resources
- Discussion of rescheduling the January 1, 2025 General Membership Meeting as it falls on New Year’s Day
- **John O’Connell K2QA** reported on the desirability of upgrading the Clubhouse internet service

Meeting adjourned @ 2006 Hours

Respectfully Submitted,
John Zaruba Jr K2ZA
Recording Secretary

Southern New Jersey ARRL Affiliated Clubs

Compiled by Ron Fish, KX1W, Affiliated Club Coordinator, SNJ Section, Atlantic Division, ARRL

Updated November 17, 2023

Atlantic County ACORN KD2CSK
Contact : Michael Price, N2JVM, pricere@aol.com

Atlantic Radio Club W3KY
http://www.k2tqn.net/oldradio/w3ky/index.html
Contact : John Dilks, K2TQN, W3KY@arrl.net

Battleship NJ Amateur Radio Society NJ2BB
https://www.nj2bb.org. Contact : Richard Enwright, KB3NRL, renwright62@gmail.com

Burlington County Radio Club K2TD
http://www.k2td-bcrc.org
Contact : Robert Nelson, K2QPN, k2td@arrl.net

Cape May County Amateur Radio Club N2CMC
http://cmcarc.org. Contact : Robert Myers, KD2HIP, cmcarc2022@gmail.com

College of New Jersey Amateur Radio Club WB2BDS. Contact : Al Katz, K2UYH, alkatz@tcnj.edu

David Sarnoff Radio Club N2RE
https://n2re.org
Contact : John DeGood, NU3E, n2re@arrl.net

Delaware Valley Radio Association W2ZQ
http://www.w2zq.com. Contact : Robert Bowden, KB3BB, w2zq@arrl.net

Franklin Township EmComm Operators Club KD2CXT. Contact : Jerry Marinacci, KE2CK, ke2ck@arrl.net

Gloucester County Amateur Radio Club W2MMD
http://www.w2mmd.org. Contact : Jonathan Pearce, WB2MNF, w2mmdgcarc@gmail.com

Holiday City Amateur Radio Club W2HC
http://www.hcarc.us
Contact : Lawrence Puccio, K2QDY, w2hc@arrl.net

Jersey Shore Amateur Radio Society NJ2AR
http://www.jsars.org
Contact : Richard Dinolfo, KD2PGP, kd2pgp@gmail.com

Mercer County Emergency Radio Club W2MER
https://merceraresonline.wordpress.com
Contact : John Pugh, WJ3P, jepugh@gmail.com

New Jersey Emergency Communications Team NJ2CT. **http://nject.us**. Contact : Starla Rocco, KS2ROC, info@nject.us

North Wildwood Office of Emergency Management NW2NJ. Contact : Robert Matteucci, N2TEV, nw2nj@northwildwoodnjoem.org

Ocean County ARES WA2RES, Contact : Robert Murdock, WX2NJ, admin@wa2res.com

Old Barney Amateur Radio Club N2OB
http://www.obarc.org. Contact : Richard Kennard, N2RPQ, n2ob@arrl.net

OMIK Amateur Radio Association K0MIK
www.omikradio.org. Contact : Courtney Smith, KD2SPJ, omik.radio@gmail.com

Princeton University Amateur Radio Club W2PU
Contact : Joe Taylor, K1JT, jtaylor@princeton.edu

Radio Operators of Camden County K2AUD
http://www.k2aud.org. Contact : Donald Martel, N2SPW, k2aud@arrl.net

Shore Points Amateur Radio Club W2HRW
http://www.sparc985.com. Contact : Richard Hitchen, KC2ESD, sparc985@gmail.com

South Jersey DX Association N2CW
http://sjdxa.org. Contact : Robert Schenck, N2OO, n2cw@arrl.net

South Jersey Radio Association K2AA
http://www.sjra.org. Contact : Richard Lawn, W2JAZ, sjra@sjra.org

Southern Counties Amateur Radio Association K2BR. **http://www.k2br.com**. Contact : William Schwoer, KC2AAY, scara@k2br.com

The 835 Amateur Radio Group
http://www.146835.org.Contact : John Bodine, WU2E, john.bodine@gmail.com

To Be Added To The DX HONOR ROLL,
Please contact Ernest Kraus, KD2EAV
meanddelcanotc@verizon.net

GLOUCESTER COUNTY
AMATEUR·RADIO·CLUB
DX HONOR ROLL
NEW JERSEY

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout, W2YC	349
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	335
Bob Pantazes, W2ARP	290
John Hill, W2HUV	271
Gary Castellini, N2IEC	264
Vinnie Sallustio, N4NYY	262
Ken Denson, WB2P	248
Sheldon Parker, K2MEN	245
Jim Wright, N2GXJ	242
Tony Starr, K3TS	231
Dennis Sandole, K2SE	204
Howard Marder, WA2IBZ	154
Art Strong, KA0WS	147
Eric Morris, N2BRJ	144
Steve Farney, W2SEF	141
Phil Nunzio, WA3RGY	137
Rich Subers, W2RHS	124
Marc Federici, WM2Y	116
Bart Kleczynski, AC2PT	106
Ben Johnson, WB2GUK - New Entry	104
Chuck Capasso, WB2PGE	103
Harry Strahlendorf Jr, W3DNQ	87
Jim Clark, KA2OSV	71
Lee Marino, N2LAM	62
Updated As Of 06/26/2024	

Hmm...It's Saturday and you want to know if someone is at the Clubhouse? Why not call and find out! What!!!

W2MMD Clubhouse : (856) 244-6914

(Please, no free solar panel calls!)

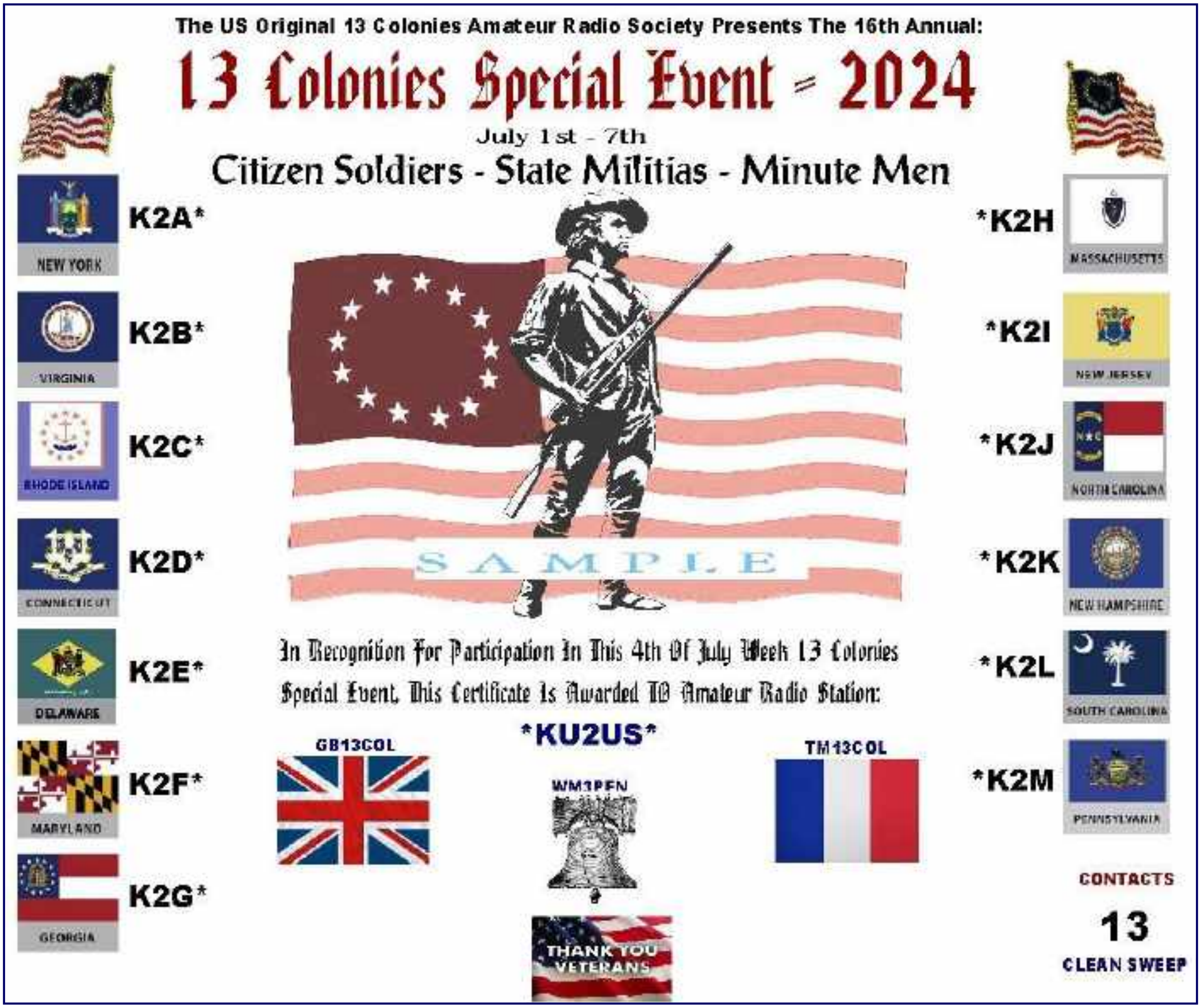
July Birthdays

Congratulations To Our Members Who Are Celebrating A Birthday This Month

Diane Amico, KE2DPT
John Borelli Jr, KD2ZXP
Todd Buirch
Alex Calabrese, WA2ADS
Chris Chamberlain, N2IVN
Paul Cosenza, KD2RDD
Herb Dyer, KT2Y
Bert Espanol, N3PKH
Jim Foster, W3JNF
Gary Hewitt, N2WHV
Jerry Jacobus, WB2QEF
Chris Kelly Sr, KC2PC
Lee Marino, N2LAM
Don Martel Sr, KE2AIB
Phyllis Martin, W2PDB
Angela Metzger, KE2DRJ
Linda Murphy, KD2RVH
Ronald Newman, KE2DPO
Charles Olinda, N2SRQ (President 1994)
Bob Pantazes, W2ARP
Mike Pecorini, K2MRP
Mike Pentimall, KC3VTF
Ed Scheidts, KC2QFB
Art Strong, KA0WS (President 1999, 2000)
Charlie Wahl, KC2STO
Jeff Welsh, KD2AZI
Rose Williams
Rolf Wurmbach, KD2VQG
Mickey Zerby, W2EFR

In Memoriam : July Birthdays

Francis Applegate Jr, N3DOM
William Bachman, WA2VEE (President 1969)
Alfred Bestwick, N2BTN
Paul Carr, KB2TKV
Mary Kate Coursey, WA2VRR
Richard Deane Sr, KA2BNJ
Ralph Ditore, K2KIT
Paul Fredricks, K2FI
Wesley Gosbin Jr, KB2IRK
Leon Jones, KC2AAA
John Kull, WB2GKH
John Logan Jr, KB2VSE
Harold Lowther, N2EJN
Alfred Marcy, W4ID
Albert Miller, KB2YDX
Iggy Nishina, KD2MGU
Tad Niziol, N2BDC
Haywood Pelley, WA2EVK
Goldie Rosenberg, N2YNB
Conrad Salati, N2HTS
Edward Sumek, W2GSN (President 1989)
James Swyler, WB2ELG
Alan Trueblood. N2FJQ
Wallace Utley, W2CB



The US Original 13 Colonies Amateur Radio Society Presents The 16th Annual:

13 Colonies Special Event = 2024

July 1st - 7th

Citizen Soldiers - State Militias - Minute Men

K2A* NEW YORK

K2B* VIRGINIA

K2C* RHODE ISLAND

K2D* CONNECTICUT

K2E* DELAWARE

K2F* MARYLAND

K2G* GEORGIA

*K2H MASSACHUSETTS

*K2I NEW JERSEY

*K2J NORTH CAROLINA

*K2K NEW HAMPSHIRE

*K2L SOUTH CAROLINA

*K2M PENNSYLVANIA

SAMPLE

In Recognition For Participation In This 4th Of July Week 13 Colonies Special Event, This Certificate Is Awarded TO Amateur Radio Station:

KU2US

GB13COL

WM3PEN

TM13COL

THANK YOU VETERANS

CONTACTS

13

CLEAN SWEEP

Fair Radio Sales (https://fairradio.com), an iconic electronic military surplus store in Lima, Ohio, announced in August 2023 that they would be going out of business in October of that year

Phil Sellati, owner of **Fair Radio Sales**, told The ARRL Letter editor last year that it was time to close the business. "I took over the business that my dad started in 1947, and after 50 years, it's time to close the doors," he said. Sellati had an offer on the building and felt that it was time to move on and was wondering what might come next. But they haven't closed their doors just yet. At the urging of many amateur radio operators, Fair Radio Sales is still in business and will be open during the 2024 Dayton Hamvention®. The company's website recently posted: "Fair Radio will be open until June 28, 2024. We will then prepare for an auction to be held in the summer." Thousands of amateur radio operators, collectors, experimenters, and shortwave listeners have visited the store over the years. The shelves and aisles are full of old military radios and receivers. Many other electronic surplus stores, like J.J. Glass Surplus in California and Ritco Electronics in Virginia, closed several years ago.

Article Credit : The ARRL Letter for May 9, 2024 - www.arrl.org

Save The Date

2024 Gloucester County 4-H Fair

July 25-28, 2024
Rt 77 Mullica Hill, NJ

For General Information:
Facebook
2024 Gloucester County 4-H Fair
Vendor Information:
vendorsgc4hfair@gmail.com

Bike MS : City To Shore Ride 2024
September 28 - 29, 2024

Bike MS : Bike To The Bay (Delaware) 2024
October 5, 2024

N3MSS Amateur Radio Communications
Bike MS Volunteers
www.n3mss.org

Club Merchandise from the K2ZA Workshop
Contact John Zaruba Jr, K2ZA at k2za@icloud.com
Go To : https://gloucestercountyarc.weebly.com/club-merchandise.html

S	H	A	C	K	■	D	I	A	L	■	S	A	N	S
C	A	N	O	E	■	E	R	G	O	■	O	B	I	T
U	L	T	R	A	■	A	I	N	T	■	C	L	U	E
P	O	I	N	T	E	R	S	■	U	P	K	E	E	P
■	■	■	E	S	A	■	■	M	S	E	E	■	■	■
F	R	A	T	■	O	N	T	O	■	S	T	E	E	P
R	A	M	S	■	N	O	N	O	■	O	S	A	K	A
O	T	T	■	R	E	T	O	R	T	S	■	S	O	N
N	I	O	B	E	■	A	N	E	W	■	M	I	N	E
T	O	R	U	S	■	R	E	D	O	■	A	X	E	L
■	■	■	T	O	R	Y	■	■	P	A	R	■	■	■
K	W	M	T	W	O	■	S	W	I	T	C	H	E	S
N	A	N	O	■	C	O	N	E	■	H	O	A	R	D
A	V	O	N	■	K	N	O	B	■	O	N	A	I	R
P	E	P	S	■	S	E	W	S	■	S	I	T	E	S

Crossword Puzzle Answers From Page 47

W2MMD Clubhouse Test & Repair Bench Equipment and Supplies

A Special Thank You to Chris AD2CS for donating the equipment and organizing these test benches

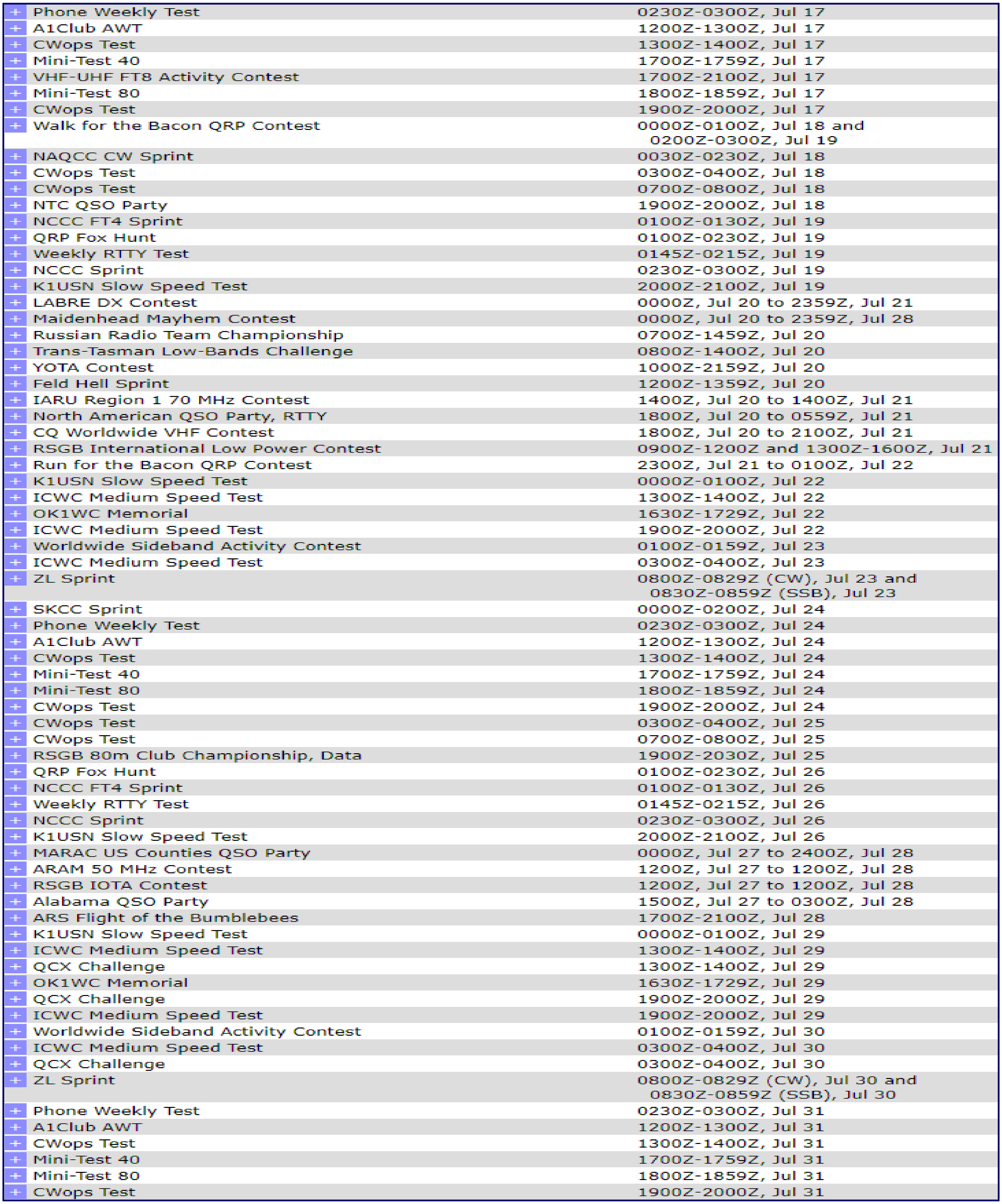
- YiHua 948 11-in-1 Solder Station
- Universal Screwdriver Set
- PanaVise PCB vise with full tilt and rotate on parts bin base
- 500 Watt Dummy Load
- 100 Watt Dummy Load
- Heathkit HD-1234 6-position Coax Switch with RG-213 jumpers
- Hook-up Wire :
    - ♦ 18 AWG stranded
    - ♦ 22 AWG solid and stranded
    - ♦ 24 AWG solid and stranded
- Bird 4304A Thruline Directional Wattmeter
- CMS BE-01 Battery Eliminator 1A/1.5-15V Power Supply
- 12 AWG Red/Black Dual Stranded ZIP Wire
- Simpson 260 Series 5 Analog Multimeter
- CMS ESR-01 Equivalent Series Resistance Meter
- Elenco DT-100 Diode & Transistor Tester
- TekPower TP50SW 50A/13.8V Power Supply
- Elenco XP-720 12.6VAC/5VDC/1.5-15VDC 3A/1A Power Supply
- RSR Electronix Express RSR-3040 15VAC/5VD/1.5-15VDC 3A/1A Power Supply
- BK Precision 1803D Frequency Counter
- KKmoon MHS-5225 Digital Arbitrary Waveform Signal Generator
- Exact 121 Analog Signal Generator
- Greenlee DM-510A Handheld Digital Multimeter
- HP 34410A Benchtop Digital Multimeter
- BK Precision 1655 Variable isolated AC Supply
- CMS Dim Bulb Current Limiter - 100 Watt
- CMS BDST-01 Signal Tracer
- CMS CRTT-01 Gas-charged Voltage Regulator Tube Tester
- Conar 224 Tube Tester
- GW LCR-814 LCR Meter
- Siglent SDS-1102CML+ Digital Storage Oscilloscope
- DX Engineering Coaxial Cable Gripper and Stripper (RG-8U / RG-213)
- DX Engineering Coaxial Cable Cutter, Trimmer, and Crimper (RG-8U / RG-213)
- DX Engineering RG-8X Die Set for Coaxial Cable Crimper
- Adjustable Wrench Set for Slotted/Recessed Round Nuts
- Speedwox Miniature Box Wrench Sets, Metric and SAE
- 69238 Nut Driver Set, Metric
- 69239 Nut Driver Set, SAE
- Velleman K-8115 Universal Component Tester
- Anderson Powerpole® Connector Assortment
- Anderson Powerpole® Crimping Tool
- Heat Shrink Tube Assortment, cut lengths
- Ring Terminal Assortment
- Alignment Tool Set
- Craftsman Wire Cutter/Crimper
- Craftsman 6-piece Pliers Set
- Laptop PC
- Programming Cable Sets (2)
- Test Lead Set
- Oscilloscope Probe Set

July 2024 Contest Calendar - WA7BNM Contest Calendar : www.contestcalendar.com

	July 2024	
+	RAC Canada Day Contest	0000Z-2359Z, Jul 1
+	K1USN Slow Speed Test	0000Z-0100Z, Jul 1
+	ICWC Medium Speed Test	1300Z-1400Z, Jul 1
+	OK1WC Memorial	1630Z-1729Z, Jul 1
+	RSGB 80m Club Championship, CW	1900Z-2030Z, Jul 1
+	ICWC Medium Speed Test	1900Z-2000Z, Jul 1
+	ARS Spartan Sprint	0000Z-0200Z, Jul 2
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Jul 2
+	ICWC Medium Speed Test	0300Z-0400Z, Jul 2
+	ZL Sprint	0800Z-0829Z (CW), Jul 2 and 0830Z-0859Z (SSB), Jul 2
+	Phone Weekly Test	0230Z-0300Z, Jul 3
+	A1Club AWT	1200Z-1300Z, Jul 3
+	CWops Test	1300Z-1400Z, Jul 3
+	Mini-Test 40	1700Z-1759Z, Jul 3
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jul 3
+	Mini-Test 80	1800Z-1859Z, Jul 3
+	CWops Test	1900Z-2000Z, Jul 3
+	Walk for the Bacon QRP Contest	0000Z-0100Z, Jul 4 and 0200Z-0300Z, Jul 5
+	CWops Test	0300Z-0400Z, Jul 4
+	CWops Test	0700Z-0800Z, Jul 4
+	NRAU 10m Activity Contest	1800Z-1900Z, Jul 4 (CW) and 1900Z-2000Z, Jul 4 (SSB) and 2000Z-2100Z, Jul 4 (FM) and 2100Z-2200Z, Jul 4 (Dig)
+	SKCC Sprint Europe	2000Z-2200Z, Jul 4
+	NCCC FT4 Sprint	0100Z-0130Z, Jul 5
+	Weekly RTTY Test	0145Z-0215Z, Jul 5
+	NCCC Sprint	0230Z-0300Z, Jul 5
+	K1USN Slow Speed Test	2000Z-2100Z, Jul 5
+	Venezuelan Ind. Day Contest	0000Z-2359Z, Jul 6
+	NZART Memorial Contest	0800Z-1100Z, Jul 6 and 0800Z-1100Z, Jul 7
+	TA VHF/UHF Contest	1200Z, Jul 6 to 1200Z, Jul 7
+	Marconi Memorial HF Contest	1400Z, Jul 6 to 1400Z, Jul 7
+	Original QRP Contest	1500Z, Jul 6 to 1500Z, Jul 7
+	PODXS 070 Club 40m Firecracker Sprint	2000Z, Jul 6 to 2000Z, Jul 7
+	K1USN Slow Speed Test	0000Z-0100Z, Jul 8
+	ICWC Medium Speed Test	1300Z-1400Z, Jul 8
+	OK1WC Memorial	1630Z-1729Z, Jul 8
+	ICWC Medium Speed Test	1900Z-2000Z, Jul 8
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Jul 9
+	ICWC Medium Speed Test	0300Z-0400Z, Jul 9
+	ZL Sprint	0800Z-0829Z (CW), Jul 9 and 0830Z-0859Z (SSB), Jul 9
+	DARC RTTY Sprint	1800Z-1929Z, Jul 9
+	Phone Weekly Test	0230Z-0300Z, Jul 10
+	A1Club AWT	1200Z-1300Z, Jul 10
+	CWops Test	1300Z-1400Z, Jul 10
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jul 10
+	Mini-Test 40	1700Z-1759Z, Jul 10
+	Mini-Test 80	1800Z-1859Z, Jul 10
+	CWops Test	1900Z-2000Z, Jul 10
+	RSGB 80m Club Championship, SSB	1900Z-2030Z, Jul 10
+	CWops Test	0300Z-0400Z, Jul 11
+	CWops Test	0700Z-0800Z, Jul 11
+	NCCC FT4 Sprint	0100Z-0130Z, Jul 12
+	QRP Fox Hunt	0100Z-0230Z, Jul 12
+	Weekly RTTY Test	0145Z-0215Z, Jul 12
+	NCCC Sprint	0230Z-0300Z, Jul 12
+	K1USN Slow Speed Test	2000Z-2100Z, Jul 12
+	SKCC Weekend Sprintathon	1200Z, Jul 13 to 2400Z, Jul 14
+	IARU HF World Championship	1200Z, Jul 13 to 1200Z, Jul 14
+	QRP ARCI Summer Homebrew Sprint	2000Z-2300Z, Jul 14
+	K1USN Slow Speed Test	0000Z-0100Z, Jul 15
+	4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Jul 15
+	ICWC Medium Speed Test	1300Z-1400Z, Jul 15
+	OK1WC Memorial	1630Z-1729Z, Jul 15
+	ICWC Medium Speed Test	1900Z-2000Z, Jul 15
+	RSGB FT4 Contest	1900Z-2030Z, Jul 15
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Jul 16
+	ICWC Medium Speed Test	0300Z-0400Z, Jul 16
+	ZL Sprint	0800Z-0829Z (CW), Jul 16 and 0830Z-0859Z (SSB), Jul 16

July 2024 Contest Calendar - Continued on page 58

July 2024 Contest Calendar - Continued from page 57



+	Phone Weekly Test	0230Z-0300Z, Jul 17
+	A1Club AWT	1200Z-1300Z, Jul 17
+	CWops Test	1300Z-1400Z, Jul 17
+	Mini-Test 40	1700Z-1759Z, Jul 17
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Jul 17
+	Mini-Test 80	1800Z-1859Z, Jul 17
+	CWops Test	1900Z-2000Z, Jul 17
+	Walk for the Bacon QRP Contest	0000Z-0100Z, Jul 18 and 0200Z-0300Z, Jul 19
+	NAQCC CW Sprint	0030Z-0230Z, Jul 18
+	CWops Test	0300Z-0400Z, Jul 18
+	CWops Test	0700Z-0800Z, Jul 18
+	NTC QSO Party	1900Z-2000Z, Jul 18
+	NCCC FT4 Sprint	0100Z-0130Z, Jul 19
+	QRP Fox Hunt	0100Z-0230Z, Jul 19
+	Weekly RTTY Test	0145Z-0215Z, Jul 19
+	NCCC Sprint	0230Z-0300Z, Jul 19
+	K1USN Slow Speed Test	2000Z-2100Z, Jul 19
+	LABRE DX Contest	0000Z, Jul 20 to 2359Z, Jul 21
+	Maidenhead Mayhem Contest	0000Z, Jul 20 to 2359Z, Jul 28
+	Russian Radio Team Championship	0700Z-1459Z, Jul 20
+	Trans-Tasman Low-Bands Challenge	0800Z-1400Z, Jul 20
+	YOTA Contest	1000Z-2159Z, Jul 20
+	Feld Hell Sprint	1200Z-1359Z, Jul 20
+	IARU Region 1 70 MHz Contest	1400Z, Jul 20 to 1400Z, Jul 21
+	North American QSO Party, RTTY	1800Z, Jul 20 to 0559Z, Jul 21
+	CQ Worldwide VHF Contest	1800Z, Jul 20 to 2100Z, Jul 21
+	RSGB International Low Power Contest	0900Z-1200Z and 1300Z-1600Z, Jul 21
+	Run for the Bacon QRP Contest	2300Z, Jul 21 to 0100Z, Jul 22
+	K1USN Slow Speed Test	0000Z-0100Z, Jul 22
+	ICWC Medium Speed Test	1300Z-1400Z, Jul 22
+	OK1WC Memorial	1630Z-1729Z, Jul 22
+	ICWC Medium Speed Test	1900Z-2000Z, Jul 22
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Jul 23
+	ICWC Medium Speed Test	0300Z-0400Z, Jul 23
+	ZL Sprint	0800Z-0829Z (CW), Jul 23 and 0830Z-0859Z (SSB), Jul 23
+	SKCC Sprint	0000Z-0200Z, Jul 24
+	Phone Weekly Test	0230Z-0300Z, Jul 24
+	A1Club AWT	1200Z-1300Z, Jul 24
+	CWops Test	1300Z-1400Z, Jul 24
+	Mini-Test 40	1700Z-1759Z, Jul 24
+	Mini-Test 80	1800Z-1859Z, Jul 24
+	CWops Test	1900Z-2000Z, Jul 24
+	CWops Test	0300Z-0400Z, Jul 25
+	CWops Test	0700Z-0800Z, Jul 25
+	RSGB 80m Club Championship, Data	1900Z-2030Z, Jul 25
+	QRP Fox Hunt	0100Z-0230Z, Jul 26
+	NCCC FT4 Sprint	0100Z-0130Z, Jul 26
+	Weekly RTTY Test	0145Z-0215Z, Jul 26
+	NCCC Sprint	0230Z-0300Z, Jul 26
+	K1USN Slow Speed Test	2000Z-2100Z, Jul 26
+	MARAC US Counties QSO Party	0000Z, Jul 27 to 2400Z, Jul 28
+	ARAM 50 MHz Contest	1200Z, Jul 27 to 1200Z, Jul 28
+	RSGB IOTA Contest	1200Z, Jul 27 to 1200Z, Jul 28
+	Alabama QSO Party	1500Z, Jul 27 to 0300Z, Jul 28
+	ARS Flight of the Bumblebees	1700Z-2100Z, Jul 28
+	K1USN Slow Speed Test	0000Z-0100Z, Jul 29
+	ICWC Medium Speed Test	1300Z-1400Z, Jul 29
+	QCX Challenge	1300Z-1400Z, Jul 29
+	OK1WC Memorial	1630Z-1729Z, Jul 29
+	QCX Challenge	1900Z-2000Z, Jul 29
+	ICWC Medium Speed Test	1900Z-2000Z, Jul 29
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Jul 30
+	ICWC Medium Speed Test	0300Z-0400Z, Jul 30
+	QCX Challenge	0300Z-0400Z, Jul 30
+	ZL Sprint	0800Z-0829Z (CW), Jul 30 and 0830Z-0859Z (SSB), Jul 30
+	Phone Weekly Test	0230Z-0300Z, Jul 31
+	A1Club AWT	1200Z-1300Z, Jul 31
+	CWops Test	1300Z-1400Z, Jul 31
+	Mini-Test 40	1700Z-1759Z, Jul 31
+	Mini-Test 80	1800Z-1859Z, Jul 31
+	CWops Test	1900Z-2000Z, Jul 31

2024 Club Committees

Standing Committees	Committee Chairs
Budget	**John O'Connell, K2QA**
Constitution & By-Laws	**Ron Block, NR2B**
Education	**Chris Prioli, AD2CS**
Field Day	**Tony Starr, K3TS**
Hamfest	**Sheldon Parker, K2MEN and Bill Price, NJ2S**
Health, Welfare, & Silent Keys	**Bill Price, NJ2S**
Hospitality	**Jeff Garth, WB2ZBN**
Membership	**Chris Prioli, AD2CS**
Membership Badges	**Chris Prioli, AD2CS**
Nominations	**Jon Pearce, WB2MNF**
Publicity	**Mike Resnick, N2WOQ**
Repeaters	***Open Chair***
W2MMD Clubhouse Site	**Al Arrison, KB2AYU**

Activity Committees	Committee Chairs
Awards & Certificates	**GCARC Board of Directors**
Club Photographer	**Phil Nunzio, WA3RGY**
Club Publications & Historian	**Jeff Garth, WB2ZBN**
Contests	**Tony Starr, K3TS**
GCARC Foxhunts	**Jim Wright, N2GXJ**
GC-ARES Emergency Coordinator	**Bob Keogh, KD2NEC**
Holiday Dinner Party	**Frank Romeo, N3PUU & Kathy Romeo**
License Testing/VEC Liaison	**Gary Reed, N2QEE**
Membership Roster Database	**Jeff Garth, WB2ZBN**
Programs : General Membership Meetings	**Ron Block, NR2B**
Radio Nets	***Open Chair***
Technical (Tech Saturday, TechNets)	**Jon Pearce, WB2MNF**
W2MMD License Trustee	**Darrell Neron, AB2E**
W2MMD Special Event Station	**Mark Gottlieb, KK2L**

GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net e-mail reflector guidelines

1. **No attachments** (e.g. pictures, files) are allowed on the reflector.
2. If you have Club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and will send out a general e-mail to all the members.
3. Otherwise, the pictures will have to be sent to the members' addresses.
4. URLs/Hyperlinks are acceptable on the reflector.
5. Do not send any messages with e-mail addresses in the **BCC** (**Blind Carbon Copy**) field. The message will be rejected. Use only the **To:** or **CC:** fields.
6. Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.
7. If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address. Whenever a message sent to reflector is rejected or *"bounced"* for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message.

The W2MMD Repeaters

2 Meter Repeater
Output : 147.180 MHz
Input : 147.780 MHz
Offset : +600 kHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)
EchoLink : W2MMD-R

70 cm Repeater
Output : 442.100 MHz
Input : 447.100 MHz
Offset : +5 MHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)

The above repeaters are both
located in Pitman, NJ
GPS : 39.728481°, -75.131088°

1.25 Meter Repeater
Output : 224.660 MHz
Input : 223.060 MHz
Offset : -1.6 MHz - PL : 131.8 Hz
Location : Sewell, NJ
GPS : 39.746738°, -75.077094°

SKYWARN™ Net
Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net
Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM Forum
Available Every Monday @ 1930 Hours
Join ZOOM Meeting Link :
https://bit.ly/3K8bWwj

Tuesday AfterNoon 2M Net @ 1200 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours
28.465 MHz or 28.475 MHz

Thursday Night 40M Net @ 1930 Hours
7.230 MHz (+/- 5 kHz)

Thursday 2M Net @ 2000 Hours

Meeting Calendar

General Membership Meeting
Wednesday, July 3, 2024
1900 Hours
Pfeiffer Community Center
Simulcast Live on ZOOM
Meeting ID : 943 0211 9674
Passcode : 843147
Join ZOOM Meeting Link :
https://bit.ly/44P4HCU

Board of Directors Meeting
Wednesday, July 17, 2024
1900 Hours
W2MMD Clubhouse

"There's More To Ham Radio Than
You Can Possibly Do!"
- K3TS

"The big thing about being in a club and
being a "Ham" is to help each other
when there is a need "
- W2SEF

*** Badges ***

Need a new or replacement badge
Contact "*The Badge Man*"

Chris Prioli, AD2CS
chris@ad2cs.com

Question Pool Answers : E1A01:D; E1A02:D; E1A03:C; E1A04:C; E1A05:C; E1A06:B; E1A07:C; E1A08:B; E1A09:D; E1A10:A; E1A11:B

73 Gloucester County Amateur Radio Club - P. O. Box 370 - Pitman, NJ 08071 Ω